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Irach J. S. Taraporewala

IN MEMORIAM

Dr. Irach Jehangir Sorabjee TARAPOREWALA was not only the first Director of this Institute, he was probably the first Indian scholar to be awarded the Government of India Sanskrit Scholarship for studies abroad. He had also the distinction of being the first Professor of Comparative Philology at the University of Calcutta and the first President of the Linguistic Society of India (1928-30).

Dr. TARAPOREWALA was essentially a teacher and research worker. One of the best linguists, well-versed in English, Sanskrit, Avesta, French, German (all of which he taught one time or another as a professor), Arabic, Persion, Urdu, Gujarati, Bengali, Hindi and Marathi, and trained in the critical methods of the West under some of the foremost scholars in England and Germany, such as Dr. P. GILES and Prof. BARTHOLOMAE, he loved to impart this knowledge to his pupils, through books and lectures. Among his public lectures may be mentioned those at the University of Bombay in 1914 and 1937 (Wilson Philological lectures on " Sanskrit Syntax "), at the K. R. Cama Oriental Institute (1928), and the Summer School of Linguistics (Poona, 1955). He often presided over the various sections of the All India Oriental Conference and also those of the Linguistic Society of India.

Extremely humane and kind, a perfect gentleman, a Parsi with a very catholic outlook on life and religions, he got the rare opportunity of teaching Sanskrit in Iran. Though quite advanced in years, he welcomed this opportunity. But destiny had thought otherwise. He fell ill on reaching Iran, and had to be brought back to Bombay. Here he died on the 15th of January 1955.

Important Publications of Dr. Taraporewala

(1) *Some notes on the Adhyakṣa Pracāra* (Doctorate Thesis).

(2) *Selections from Avesta and Old Persian* (Calcutta 1922).

(3) *Selections from Classical Gujarati Literature*, Vols. I to III.

(4) *Elements of the Science of Language* (2nd Edn. 1951).

(5) *History of the Parsis in India* (Contributed to the *Cambridge History of India*).

(6) *The Religion of Zarathushtra* (Adyar, Madras, 1926).

(7) *Gāthā Ahunavaiti* (An English rendering), Bombay, 1944.

(8) *The Gāthās of Zarathushtra*, Bombay, 1947.

(9) " The Future of Linguistic Studies in India "
(Presidential address in the Philological Section, 2nd Oriental Conference).

(10) " Some Aspects of the History of Zoroastrianism "
(Government Fellowship lectures at the K. R. Cama Oriental Institute, 1927).

(11) Inaugural Address of the Linguistic Society of India (Lahore, 1928).

(12) " The Indo-European Homeland "
(Presidential Address in the Philological Section, 6th Oriental Conference).

(13) " Some Aspects of Iranian Studies in India "
(Presidential address in the Iranian Section, 7th Oriental Conference).

(14) " Linguistics in India " *Indian Linguistics*, Vol. XVI (1956), pp. 153-56.

As a mark of respect to his memory the staff and students of Deccan College unanimously resolved to bring out Volume 18 of the Bulletin as a Memorial Volume to be published on the first anniversary of his death. However, circumstances prevented the realization of that during 1957. The organisers of the Volume have pleasure in inscribing this Volume to the lovable memory of the late Dr. TARAPOREWALA on the occasion of his second death anniversary.

H. D. SANKALIA
Director.

15th January, 1958.

Corrections and Additions

THE FUNERARY MONUMENTS OF THE NILGIRIS

By

G. N. Das

p. 140		Footnote 1	This is a preliminary account, prepared sometime ago, which is made available pending the publication of the final report based on the writer's latest findings and incorporating technical reports, photographs and pen-and-ink illustrations according to modern techniques. Here the material is presented in as plain a language as possible.
p. 141	ll.10-13	from above	Omit the sentence " In the absence...... or pole ".
p. 141	l.12	from bottom	For " cists " read " dolmens ".
p. 141	l.5	from bottom	For " chamber " read " cist ".
p. 141	l.3	from bottom	For " cists " read " dolmens ".
p. 142	l.1	from bottom and elsewhere on the page.	For " cists " read " dolmens ".
p. 142	l.3-4.		Omit the words " denoting......for ever ".
p. 142	l.14	from bottom.	For " digging down etc." read " Digging of a stone circle ".
p. 143			lines 9-12 are to be deleted.
p. 143	l.6	from bottom.	For " analysis " read " analyses ".
	l.5	from bottom.	For " loss of " read " loss on ".
p. 144	ll.15-16	from above.	Omit " like some......region ".
pp. 144-145			The lines " Steel is......to about 800 B.C." may be dropped.
p. 145	ll.14-16	from bottom.	" In the way....fingers" should be dropped.
p. 146	l.2		Instead of the words " knobs..." read " some have omphalos base ".

p. 146	ll.6-8	from top.	Omit the sentence "It may have...... handle".
p. 146	l.10	from top.	Read "Chemical analyses of a bronze bowl showed :— copper 75·25, tin 23·58, lead 0·21, iron 0·37, nickel 0·28. The remaining 0·31 represents oxygen in the combined state occurring as culprite.
p. 146	ll.5-10	from bottom.	Omit the lines "No. figure......oceans".
p. 147	l.4	from above	For "horizontal lines" read "horizontal lines etched in white".
p. 147	ll.5-8	from bottom.	Delete the sentence "the aureus must...... Augustus" (23 B.C.-A.D. 14).
p. 147	l.4	from bottom.	For "the most important", read "Another".
p. 148			Delete the sentence "As regards its reading......have been used".
pp. 148-152			**Views expressed on these pages *now* need revision).**

Acknowledgements

Grateful thanks for invaluable scholarly assistance in connection with these researches are due to Dr. H. D. SANKALIA, Director, Deccan College Research Institute, Poona, with whom the writer is associated; to Dr. A. AIYAPPAN and Mr. C. J. JAYADEV, Superintendent and Curator respectively of the Government Museum, Madras, where generous facilities have been provided to study the Nilgiri antiquities; to Dr. Milton SINGER and Dr. David G. MANDELBAUM, Professors of Anthropology at the Universities of Chicago and California (Berkeley), respectively for the learned insights they have furnished; to Dr. S. F. COOK, Professor of Physiology, School of Medicine, University of California, Berkeley and Dr. A.A. AYER, Director, Institute of Anatomy, Stanley Medical College, Madras; to the Director General of Archaeology in India, New Delhi and several officers of his department, particularly Dr. B. Ch. CHHABRA, Government Epigraphist for India and Dr. D. C. SIRCAR, Superintendent for Epigraphy, Ootacamund, the Nilgiris; to Messrs. J. P. L. GWYNN of the Indian Civil Service, V. V. S. N. SARMA, V. A. PATNAIK, K. SANKARAN and other friends and organisations too numerous to mention here.

THE TRIVIKRAM TEMPLE AT TER

By

M. S. MATE

It was in 1901 that the late Henry COUSENS, to whom Indian archaeology owes so much, visited the town of Ter. This town in the Osmanabad District of the Hyderabad State was identified by FLEET as the ancient Tagara. It was this identification that aroused COUSENS's curiosity, and he paid to Ter a 'flying visit'. In such a visit he saw the famous Trivikram temple and summed up his conclusions in an article published in the *Archaeological Survey of India Report*, 1902-3.[1] He maintains in this article that the temple was originally a Buddhist Chaitya, usurped by the Brahmanical sects in later years, and that it belongs to the fourth century A. D. or might be even earlier.

Most authors on Indian architecture have carried forward these conclusions without effecting any material changes in them. The only ones to express their differences were Vincent SMITH and FERGUSSON.[2] Others have reproduced COUSENS's descriptions and conclusions almost literally. An erroneous reading of one of his sentences led many of them even to state that the town was in the Sholapur district of the Bombay province.[3]

After a visit to the place and a careful study of the monument I was convinced that the whole question required a re-examination. I was encouraged in this task by the differences expressed by FERGUSSON and SMITH, and also by COUSENS's own frank admission —"My visit was too short to study the question of age as fully as I could wish."[4] It is therefore proposed in this essay to consider the questions of the antiquity and the original dedication of the shrine.

The temple as it stands, consists of the rectangular shrine with an apsidal end and square *mandapa*.[5] The shrine is twenty-six feet long, and twelve feet broad, inside, and the brick walls are three-and-half a feet thick. The bricks measure 17″ × 9″ × 3″. The bricks used for the *mandapa* are not uniform in size. The roof of the shrine is a wagon-vaulted ridge roof. The roof also is of bricks and is corbelled out. The *mandapa* has a flat roof. The façade of the shrine is similar to a pointed arch or a 'chaitya arch', and stands seventeen feet above the *mandapa*.[6]

1. COUSENS, H. Ter.-Tagara, *Archaeological Survey of India* 1902-03, p. 195.
2. FERGUSSON holds that the shrine and mandapa are contemporary. However, in the absence of any supporting proof this contention is not acceptable.
3. FERGUSSON, *Indian and Eastern Architecture*, p. 128.
4. COUSENS H. *op. cit.*, 1902-03, p. 200.
5. *Ibid.* Plate XXIX.
6. *Ibid.*

Around the temple and the *maṇḍapa* are stucco pilasters with constricted necks and horizontal roll mouldings.[7] All around the shrine just above the eave, is a roll moulding; a similar roll moulding is there on the *maṇḍapa* but the two are not of the same design nor are both continuous. The *maṇḍapa* has wooden pillars with turned capitals, narrow mouldings and constricted necks.[8]

The seventh century A. D. should be the probable date of the Tṛivikrama a temple on grounds of style. No other kind of evidence is available that would throw any light on this subject and hence one has to rely on the evidence that the style is capable of yielding.

Smith states, "The apsidal plan also survived in mediaeval stone construction as is shown at Sanchi and Pattadkal." The date that he assigns to this temple is the eighth century.[9] This means that he brought the date down on stylistic grounds. The Ter temple stylistically belongs to the early Pallava style (as shown below), which belongs to the seventh century.[10] Hence while agreeing with Smith in bringing the date down into the mediaeval period, I would suggest the seventh instead of the eighth century.

My grounds are as follows :

(*i*) The apsidal plan was used for Hindu temples for nearly six centuries. The earliest is the Durgā temple at Aihole in Bijapur district. It belongs to the sixth century. Next come the Mahabalipurm *rathas* (7th A. D.). The plan was in use till the twelfth century as is shown by the Parashurāmeshwara temple at Gudimallam.[11] It was not a monopoly of the Buddhist architects and by itself the plan does not indicate any particular style, or age.

(*ii*) The wagon-vaulted ridge roof as seen in the Ter temple is exactly similar to the roof used for the Sahadeva *ratha*.[12]

(*iii*) According to Cousens the facade of the shrine 'follows the outline of the true Buddhist chaitya arch as found in the caves.' He has not been able to point out any prototype of the Ter arch in any of the caves. In my opinion the outline of the arch of this facade resembles very closely the outlines of the arches of the Arjuna and Sahadeva *rathas* at Mahabalipurm.[13]

7. *Ibid.*
8. *Ibid.*
9. Smith Vincent A., *A History of Fine Art in India and Ceylon* (Oxford 1930), p. 28.
10. *Archaeology in India*, (1950), p. 91.
11. T. A. Gopinath Rao, "Five Bana Inscriptions at Gudimallam," *IA.*, April 1911 p. 104.
12. *Archaeology in India* (1950), Plate XXVIII.
13. *Ibid.* and Zimmer, *Art of Indian Asia*, 1955, Plate 195.

COUSENS further maintains that the details of the facade resemble the details of the facade of the Vishvakarma cave at Ellora. This is true to a certain extent. But it does not at all help to prove that the temple belongs to the fourth century, because the Vishvakarma cave is itself of the seventh century.[14]

(*iv*) Around the shrine of the temple are several pilasters. These pilasters are put in the same manner as those of the Sahadeva *ratha*. The appearance of the two from the backside is strikingly similar. Moreover, the design and the mouldings of the pilasters are similar to the pilasters at Mahabalipurm.[15]

Figure 1. illustrates a number of pillars for the sake of comparison. No. 1 and 2 are from Nasik. No. 1 comes from the Ushavadāta cave. No. 2 comes from the Gautamīputra cave. Both belong to the second century A. D. The pillar No. 3 is from the Ganeśa Lenā at Junnar, also of the same period. Pillars 4, 5, and 6 are from the fourth and fifth centuries. Pillars 7, 8 and 10 come from the Pallava architecture of the seventh century. No. 7 is from Bhairavkonda cave No. V. No. 8 is a pilaster and comes from Mahabalipurm. No. 10 is also a pilastor from Mahabalipurm, Trimurti *maṇḍapa*. Pilaster No. 9 is from the Trivikrama temple at Ter.

The dissimilarities between pillars no. 1 to 6 and the close similarities between 7 to 10 are obvious.

Thus in respect of the plan, the roof, the façade and the pilasters, that is, practically all the features that determine the style of a structure, the Ter temple has a close affinity with the Early Pallava architecture of the seventh century.

COUSENS himself recognises the similarity between the Ter temple and the Mahabalipurm *rathas*. However, he dismisses their importance by saying, " the simplicity of the Ter example, its archaic and primitive appearance, and the absence of all decoration point to a very early date."[16] The ' archaic and primitive appearance ' is more due to the material used (brick and mud cement and mortar) and the scourges of nature than to age. The rain waters have everywhere left their greenish mossy marks, and the plaster has fallen down at places. And this gives it an archaic appearance. And it would be wrong to brush off the obvious similarities for the sake of mere appearance. The argument about the plainness of the temple is a double-edged weapon. In plain English it means that the architects who cut the Mahabalipurm *rathas* in so ornate a manner would not have left the Ter temple so plain. It can be said in the same vein that the Buddhist craftsmen who had earlier cut the Karle caves and who later cut the Ajanta caves in such

14. *Archaeology in India* (1950), p. 88.
15. BROWN Percy, *Indian Architecture* (*Hindu and Buddhist*) pl. IX fig. 8.
16. COUSENS H. *op. cit.*, 1902-03 p. 200.

ornate a manner would not have left this temple so plain. Plainness is no deciding factor at all, at least in this case.

Another of COUSEN's own argument refutes his theory in a rather strange way. He states, " the *maṇḍapa* is a later addition, probably added by the Hindus when they first took possession of the Chaitya, but yet not so very far removed in point of time from the building of the latter.....The wooden pillars in the *maṇḍapa* seem to be....immediate precursors....of the stone pillars of the Cālukyan work." The latter obviously refers to the later Cālukyan style – as the pillars show – which flourished in the eleventh century. This naturally brings the *maṇḍapa* and the shrine somewhere near the eleventh century.

Thus far about the date, its *pros* and *cons*.

The next question is, was the shrine Buddhist ?

Apart from arguments based on style, COUSENS points out some four carved stones, which according to him, might be parts of a *stūpa* housed in this shrine. There is no evidence to show that they actually belonged to the temple. The conclusion he draws is far-fetched and therefore unreliable. If only his arguments regarding style stand unquestioned, then the stones mean something. But when it is shown here that the style is Pallava *i.e.* Hindu (Brāhmanic) and not Buddhist the stones lose all the importance they had. I would point out any one of th dozens of images of various periods that are scattered all over the place and sa, that it belonged to the temple ' originally '. It would be absurd. Without any definite proof both would be equally erroneous.

The style of the temple is that of the Early Pallava order and hence the temple could be Hindu in all probability. There is no proof whatever in or around the temple to show that the shrine was Buddhist. And hence once the style is proved to be Pallava and not Buddhist there is very little reason to deny its original Hindu dedication.

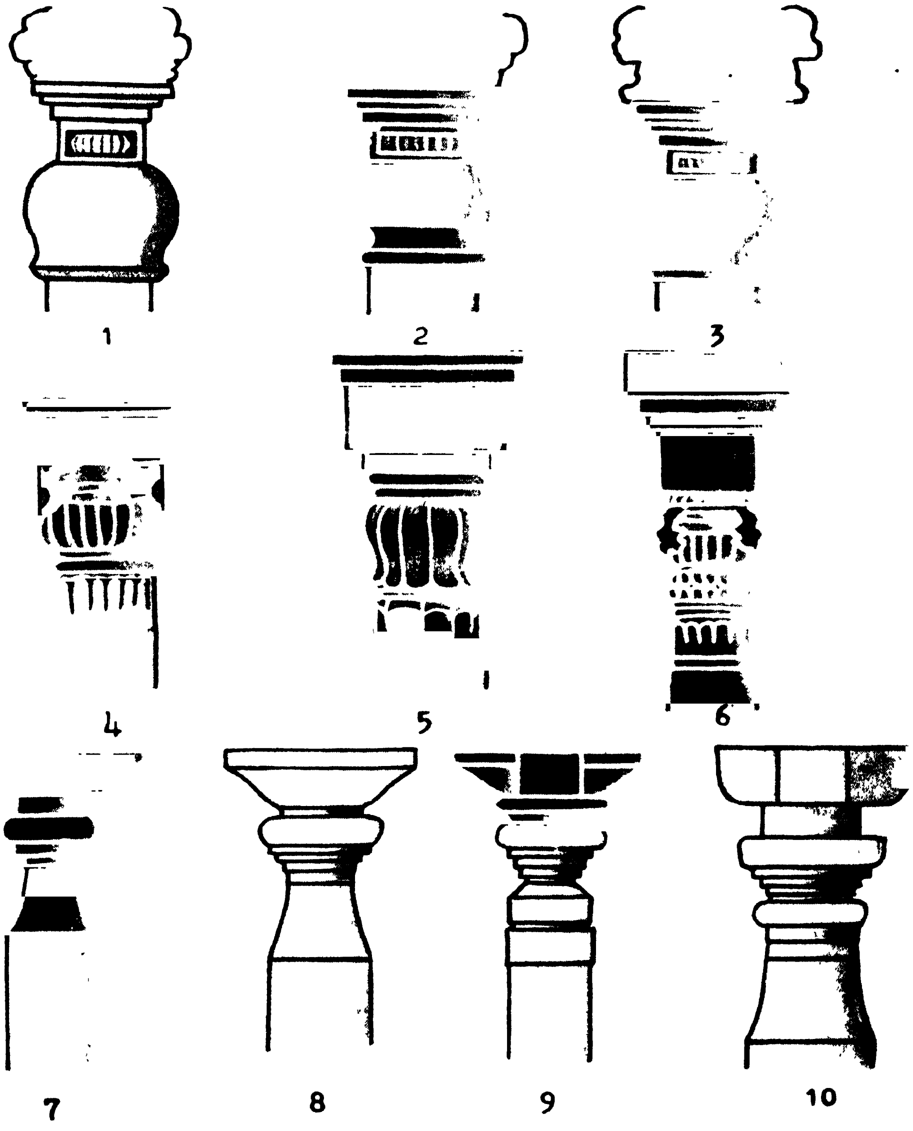


FIGURE 1.

Second Century A.D. 1-Nasik. 2-Nasik. 3-Junnar.
Fourth and Fifth Century A.D. 4-Udaigiri. 5-Sanchi. 6-Tigawa.
Seven.h Century A.D. 7-Bhairavkonda. 8 & 10-Mahabalipurm.
9-Ter. Trivikram.

NARJI THE ONE-PAN SCALES IN ANCIENT INDIA

By

MORESHWAR G. DIKSHIT

From times immemorial, ever since the system of barter came to an end, man has found it necessary to weigh his materials in some form or the other by means of a pair of scales and by using weights. In India a regular series of different types of weights has been employed since the Harappan times. Chert or flint cubes of different sizes and weights have been recovered from the excavations at Mohenjo Daro, Harappa, Chanhu Daro and other Chalcolithic sites, which suggest the existence of some kind of balance; although actual specimens of the scales themselves are indeed very few in number. In Chanhu Daro, a copper-pan containing several minute burnt faience beads is known to have been found indicating that the commodity was sold by weight. Beams of balances found at Mohenjo Daro and Harappa and in the early historic site of the Bhir Mound at Taxila, suggest that the suspension pans were attached to both the ends of the beam. The object of this paper is to introduce to the readers an improvised variety of balance in ancient India, where only one pan was used for weighing and the weight of the required object was ascertained with the help of graduation marks incised on the beam itself. By shifting the fulcrum by a hanging cord nearer or away from the centre, the weight of any object could be read from the marks on the beam. This contrivance is known by the name Naraji and is said to be still current in some parts of India, particularly in Orissa.

The beam in the specimens examined is a long horizontal iron bar with a heavy club-like knob at one end, while the other end has a perforated hole from which the weighing pan was suspended by means of three or more strings. The beam is graduated all over by small incised marks placed at regular intervals towards the pan-end, while some portion towards the club-end is left plain or unmarked. The article to be weighed is kept in the pan in the usual manner and the beam is held by means of an adjustable moving cord which is shited towards or away from the pan-end of the beam as necessary till the latter remains in a pertectly horizontal position. The graduation mark at which the string retains the beam in this position gives the correct reading of the weight of the article.

These one-pan scales are generally used by the Kaseras or copper-smiths who go from village to village on horse-back in search of old unserviceable vessels and other scrap which is often sold in exchange of new articles. The advantage of this contrivance, according to the merchants, is that they do not have to bother about carrying an unnecessary load of weights or their fractions, as the scales can very

easily be manipulated to weigh any object from about 2 tolas up to 5 seers. With different lengths of beams and heavier knobs at ends, it is possible to weigh objects even up to 10 or 15 seers, but the petty trade hardly demands such longer beams.

The specimen reproduced in this paper (Pl. I) was obtained at Ārang, a well-known place of archæological interest, situated on the banks of the Mahānadi in Madhya Pradesh, and was loaned for study by a copper-smith who plies this trade for about three months in a year every winter. Its beam consists of a horizontal bar of iron, about 47 centimetres in length, with the knob-end being about 3½ cms. in diameter. The weight of this beam is about 120 tolas i.e. 1½ seers. There are 31 graduation marks which start at a distance of 30 cms. from the pan-end, a little over 7 centimeters away from its centre. The marks cover only a portion of the circumference of the rod and are placed roughly at an intervening space of about ¾ of a centimeter in between each mark. These are graduated to weigh any object from about 2 tolas upto 4 seers. Their accuracy has been tested by putting standard weights in the pan, each seer having a weight of 80 tolas. Starting from the knob-end the marks indicate the following series of increasing weights.

Mark	*Weight*	*Mark*	*Weight*	*Mark*	*Weight*
0	...	11	25 tolas	22*	120 tolas
1	2 tolas	12	30 tolas	23	140 tolas
2	4 tolas	13	32 tolas	24*	160 tolas
3	6 tolas	14	34 tolas	25	180 tolas
4	8 tolas	15*	40 tolas	26	2½ seers
5	10 tolas	16	58 tolas	27*	3 seers
6	12 tolas	17*	60 tolas	28	3¼ seers
7	14 tolas	18	67 tolas	29*	3½ seers
8	16 tolas	19	78 tolas	30	3¾ seers
9	18 tolas	20*	80 tolas	31*	4 seers.
10	20 tolas	21	95 tolas		

In order to further distinguish certain weights, the vertical graduations have additional triangular marks at the ends of lines 10, 15, 17, 20, 22, 24, 27 29 and 31 which indicate the weights of 20, 40, 60, 80, 120, 160, 240, (i.e. 3 seers), 280 (3½ seers) and 320 (4 seers) tolas. A study of the marks and the corresponding increase in weight per mark shows that the beam is fairly well graduated at the rate of 2 tolas per mark up to 20 tolas. Between the 11th and 21st mark there is a good deal of variation showing an increase of 5, 5, 2, 2, 6, 18, 2, 7, 11, 2 and 15 tolas per each mark. The series again becomes regular after the 22nd mark with an addition of 20 tolas per mark till the 26th mark. With a small gap for 2¾th seer-mark, which is not indicated, the graduations again show a regularity in showing an addition of 20 tolas per mark till the end.

Plate II shows the Narji being actually used by a Kasera, who, is weighing a small bowl generally used by the people in Mahākoshala for eating their rice-gruel (Bāsi). It will be marked that the string from which the beam

PLATE I
Naraji, the one pan-scale

PLATE II

A kasera (Smith) weighing with Naraji.

is suspended is not in the centre but a little away from it, as necessitated by the weight of the vessel which is being weighed.

At the top of Fig. 1 is shown another specimen of Naraji, which was obtained in the excavations at Sirpur. This rod, which is almost identical with the modern specimen illustrated along with it together with the pan and strings etc., measures about 50 centimeters and was found in association with a gold coin of King Prasannamātra, of the Śarabhapura dynasty in Mahākoshala, attributed to a period between 6th-7th century A.D. It was the finding of this specimen which led to detailed inquiry regarding the one-pan balances in India, the antiquity of which has now been traced back to about 1400 years. The writer is not aware if any older specimens of identical description have previously been found or identified. Unfortunately the graduation marks on the Sirpur specimen are now entirely corroded and the suspension pan, which must have been associated with it, was not found in the excavation.

By way of additional notes on balances in ancient India, it may be remarked that in the 6th-7th century frescoes at Ajanta, Cave No. XVII. in the bazar scene from the Vessantara Jātaka, a person is shown weighing with a balance having two pans. (YAZDANI, *Ajanta*, IV, pl. XXIII).

Mānasollāsa, a 12th century work, attributed to King Bhūlokamalla Sómeshwara of the Western Cālukya Dynasty of Kalyāṇi (*circa* 1131 A.D.) gives a very detailed description of a balance used by the lapidaries in ancient India. It prescribes the use of a beam (*daṇḍa*) measuring about 12 *aṅgulas* in length, at the end of which there should be two rings (*mudrikā*) for hanging the pans which should be made of bell-metal (*Kāñsya*) with four string holes for suspension. The central rod (*kaṇṭaka*) measuring about 5 *aṅgulas* should be placed under an arch (*tōraṇa*) by means of holes at ends. The arch should be held by a string while weighing and the vertical position of the central rod should determine the exact weight (*Gaikawad Oriental Series*, No. XXVIII Part I, pp. 64-77, Verses 457-464).

From this description it appears that the scales generally in vogue were the normal form of balances with two pans. One pan scales, though used, are no where described.

QUERNS AND ANVILS FROM THE NARBADA VALLEY

(Based on the finds from the excavations at Navda Toli and Maheshwar during 1952-53).

By

K. D. BANERJEE

These stone utensils[1] unfortunately are even now classed within the unhappy group 'Minor Antiquities'. Their cultural significance, though was partially recognized fairly long ago,[2] the total significance was lacking till CURWEN[3] opened discussion on this topic. Archæologists should remain grateful to him and to his "Hill fort of Cissbury" for that.[4] Rightly CHILDE wrote of the incidence "Not only has he (CURWEN)[5] provided the pre-historian with a new instrument for the establishment of chronology but he has drawn the attention of the excavators to a revolutionary but curiously neglected advance in technology."[6] But in spite of some very good discussions and articles[7] this group of stone utensils still continues to remain curiously neglected in archæological studies in general and in India in particular.

SANKALIA pioneered in focussing the attention of Indian archæologists on this neglected side, and to him goes the first full-fledged study of this subject,[8] though some small notes were made by MARSHALL[9] and MACKAY[10] fairly long ago. In that article he mainly demonstrated the cultural significance of the saddle querns and fixed a tentative dating for the legged querns.[11] But he failed to arouse

1. I am using the term 'utensils' in place of the normal usage of the word 'objects' for two reasons. The first reason is that the word 'object' is somewhat a misnomer one and does not suggest anything definite. In some of the excavation reports the caption is given as 'Other stone objects'. This seems to be more a negative approach than a proper title. My second reason is rather constructive. The word 'utensils', at least by popular usage, suggests the use as of domestic in nature as different from weapons or even tools.

2. BENNET and ELTON, *History of Corn Milling*, Vol. I, 1898.

3. E. C. CURWEN, 'Querns', *Antiquity*, Vol. XI, p. 133, 1937.

4. Here again we see a text book illustration of the circumstances leading to a discovery. The study of the querns was necessitated, to speak in authors words, " When excavating in the hill fort of Cisbury a few years ago, the writer found nothing by which to date a certain group of pits except a piece of revolving handmill "—E. C. CURWEN, *op. cit.*,

5. Insertion mine -K.D.B.

6. V. G. CHILDE, " Rotary Querns in the continent and in the Mediterranean basin." *Antiquity*, Vol. XVII, p. 19, 1943

7. *e.g.* James WALTON, " Pestles, Mullers and Querns from the Orange Free State and Basutoland," *South African Archaeological Bulletin*, Vol. VIII, pp. 32-39, 1953.

8. H. D. SANKALIA, " Cultural Significance of Saddle Querns," *Journal of the Anthropological Society of Bombay*, New Series, Vol. IV, No. 1, pp. 35-39, Pls. I to IV, 1950.

9. J. MARSHALL, *Mohenjodaro and the Indus Valley Civilization*, Vol. II, p. 456, 1931.

10. E. MACKAY, *Further Excavations at Mohenjodaro*, Vol. II, p. 392, 1938.

11. H. D. SANKALIA, *op. cit.*, pp. 36-37.

similar enthusiasm among other workers in the field as he admits that "Response to enquiries in different parts of India, regarding the existing types was not very good, and so the idea of reconstructing modern regional typology in querns had to be differed for the moment."[12] Persons well versed with the nature of the development of Indian material culture will understand that in this land of survivals no complete study of such materials can be made without knowing the existing modern types. It is encouraging however to know that M. G. Dikshit has once again opened the detailed study of this group.[13] It remains to be seen anyway how much he succeeds to draw the attention of the fellow workers.

Here we will discuss the following finds from Maheshwar and Nevasa. The accompanying chart will show the culture successions and distribution of these materials.

(1) Saddle Querns.
(2) Anvils.
(3) Legged Querns.
(4) Mullers.
(5) Hammer stones.

SADDLE QUERNS

Marathi :—Pāṭā, Gujarati :—Pāṭo
Kannada :—Ajmakallu, Hindi :—Sil
Bengali :—Sil, Assamese : —Patā
Tamil and Malayalam : -Ammi
Telegu :- Sannikallu, Punjabi :—Sil
Oriya : -Sila, Urdu :—Sil.

This 'must' of any modern Indian household is, in its essential technological feature, a simple flat stone with a wide grinding surface, either flat or slightly concave. Theoretically speaking a true saddle quern, as different from an anvil, may earliest be found from a culture site where some sort of settled agriculture was in vogue. In fact the earliest ones come from only neolithic period.[14] SANKALIA took back its antiquity to mesolithic period[15] but he made it clear that he was referring to anvils. Earliest types of querns are made of simple heavy blocks of stone almost without any definite shape. It is evident from their forms, sizes and shapes that prehistoric, proto-historic and even early historic quern-makers did not pay much attention to the shape, the sides or even the under-surfaces. It was only the upper surface where attention was given to make it a good grinding surface. In fact, it is not possible to identify this type of querns

12. *Ibid.*, p. 35.
13. M. G. DIKSHIT, *Tripuri—1952*, pp. 105-109, 1955.
14. G. Caton-THOMPSON and E. W. GARDNER, *The Desert Fayum*, Vol. I, pp. 31-32 ; Vol. II, pl. VII. fig. 2, 1934. Also see John GARSTANG, *Prehistoric Mersin*, p. 17, 1953
15. SANKALIA, *op. cit.* p. 35.

as belonging to some definite period.[16] In many cases the undersurface is so much uneven that in its normal position it can hardly be manipulated without suffering a positive discomfort. This coupled with its enormous weight suggests that it was somehow or other fixed in the floor and very possibly it was done by partly sinking it into the soil. This practice is even now continued in some households where big querns are used.[17] Generally two types of saddle querns are found.

Type I—With flat upper grinding surface.
Type II—With concave or depressed surface.

MARSHALL[18] suggests that since the majority of querns are of type II (with somewhat acute depressions) grain (mostly wheat) was rather pounded than rubbed. While MACKAY[18] thinks that type I specimens are for grinding grains whereas type II for pounding herbs and spices. It seems both have missed the point. Except in the cases of too acutely depressed querns, I do not find any such characteristic difference as to suggest different uses altogether. Most acutely depressed querns however may be prototypes of mortars and we shall exclude here the discussions on them. To me it appears that the type II specimens are the final shape of the type I specimens after long use. Depressions are generally of two types. In one case, we find concavity both end to end as also side to side. In the second case, the concavity is only restricted to the end to end i. e. the longitudinal axis and along the side to side axis it is either flat or almost flat. The reason of this depression depends upon the nature of rubbers used. A small discoid rubber making to and fro movement will tend to make the depression in both the axis, while a long and elongated rubber will restrict it to one axis. Its associations, however with kitchens and grain store-rooms as in Iran[20]or Central Europe[21] makes it definitely clear that these were for making grain suitable for consumption. This however does not imply that dry flour was produced. In fact it will be hardly possible to make dry flour from this type of querns. For that either a mortar or a rotary quern was needed. Co-existence of mortars with this type of querns at Harappa strengthens the presumption.[22]

As SANKALIA[23] has pointed out, it was more probable that the cereals were kept in water overnight and then made to a thick paste which was perhaps

16. G. Caton-THOMPSON and E. W. GARDNER, *op. cit.*, pp. 97-98.
At Maheswar and Navda Toli too saddle querns do not change in form during those periods. (see later).
17. I have seen some households in W. Bengal where the querns are partially sunk in the floor. These querns had completely flat under surface. So it seems the partial sinking of the body is not purposive. I believe its enormous weight coupled with the wet condition of the floor has resulted in like condition.
18. MARSHALL, *op. cit.*
19. MACKAY, *op. cit.*
20. E. F. SCHMIDT, *Excavations at Tepè Hissar*, Iran (1931-32) pp. 59, 72 and 298, 1937.
21. V. G. CHILDE, *The Dawn of European Civilization*, p. 138, 1947. Also see CHILDE, *The Danube in Prehistory*, pp. 45 and 103. 1929.
22. R. E. M. WHEELER, "Harappa 1946," *Ancient India No. 3*, p. 78, Plate XXXIV, 1947. For similar case in Greece, see *The Dawn of European Civilization*, p. 58.
23. WHEELER, *op. cit.* p. 36.

meant to be baked into some sort of bread. This sort of preparation is widespread in India, especially so in the South and is also reported from Egypt.[24] Under such circumstances the manipulator will squat behind the stone as shown in 5th dynasty Egyptian statuette [25] or the terracotta figurine from Harappa[26] or as in the upper panel of north face in south pillar of Eastern gateway at Sanchi[27] Similar types of querns have been found from different culture layers from Europe,[28] Central Asia,[29] Iraq,[30] Iran,[31] Palestine,[32] Egypt,[33] and Turkey.[34] In India they are distributed over a number of sites mostly from earlier layers.

At Navda Toli this type of querns occurred right from the bottom of the proto-historic layers and though their occurrence became fewer, they never actually ceased to exist during early historic period.[35] During this time its form or shape however did not change. After the gap, during the Muslim-Maratha period they became thinner and of regular shapes with straight sides and flat undersurfaces.

1. NVT TR III layer I No. 2053.

A fragment of a saddle quern, very thin, with regular straight sides. and flat under and upper surfaces. The working surface can be distinguished by smoothed areas. Probably sub-triangular in shape.

2. NVT TR I layer 4 No. 3028a (Pl. I, Fig. C2.)

An almost complete saddle quern, sides very crudely fashioned to give an irregular outline, under surface shows a very small flat surface remaining portion crudely fashioned, working surface broad ovalloid, slightly smoothed and showing slight depression due to use.

Max. length	432 mm.
Max. breadth	340 mm.
Max. thickness	121 mm.

Maximum thickness does not occur at the maximum breadth.

ANVILS

These are small (Navada Toli specimens measure in length from 148-229 mm.) roundish or ovalloid or very rarely rectangular pieces of stone with one surface slightly convex (No. 4132), or, as in most cases, flat, while the other may be

24. John GARSTANG, *Burial Customs of Ancient Egypt*, p. 128.
25. See E. C. CURWEN, *Plough and Pasture*, p. 105, fig. 17, 1946.
26. *Archaeological Survey of India, Annual Report* 1926-27, p. XXIII C.
27. MARSHALL, *The Monuments of Sanchi*, Vol. II, p. LII, c.
28. V. G. CHILDE, *Dawn of European Civilization*, pp. 138, 155,162, 226, 248 and 295.
29. R. PUMPELEY, *Explorations at Turkistan*, Vol. I, p. 38, See Vol. II, p. 477, fig. 496, 1908.
30. R. KOLDEWAY (Translated by Agnes S. JOHNS), *The Excavations at Babylon*, p. 260, fig. 180, 1914.
Also see E. G. at Aalat Jarme, *American Journal of Archaeology*, Jan-Mar. 1949, p. 51.
31. E. F. SCHMIDT, *Excavations at Tepe Hissar*, pp. 59, 72 and 298, 1937.
Also see R. GHIRSHMAN, *Foulles de Sialk*.
32. *e.g.* at Jericho. Noted from CHILDE, *New Light on Most Ancient East*, p. 225, 1952. For original see GARSTANG, *Liverpool Annals of Arch. and Anth.* XXII.
33. G. CATON-THOMPSON and E. W. GARDNER, *op. cit.*, pp. 4, 31-32.
34. John GARSTANG, *Prehistoric Mersin*, p. 17, 1953.
35. See accompanying chart showing the distribution.

partly or completely a flat surface or may be even highly convex. These are generally made of sandstone or other coarse gritty stones and in the case of Navda Toli-Maheshwar specimens they are almost without any exception made from river-worn pebbles. Altogether twenty-seven such specimens were found and their shapes and forms make their preparation from river pebbles clear. A number of them show original rounded pebbly surfaces (NVT 4690, 4801) opposite to the flat, evidently working surface. The rounded surface was also used and gradually they began to show small flat surfaces with thick bodies (NVT 4292). In the final stage both the surfaces become equally flat and the width and the thickness diminished (4902). SANKALIA considered them small querns for grinding stone and bone tools and of mesolithic antiquity.[36] Its function as an anvil was very definitely shown at Navda Toli where it was found in association with hundreds of small stone chips and microliths in different manufacturing stages.[37] Also it may be quite possible that it had such a restricted function only during mesolithic times and developed dual function later. It can be said with certainty that they were also used as rubber[38] during proto-historic period at Navda-Toli. Its association with querns in the distribution also suggests such a use. This specific suggestion is further strengthened by the finds from Fayum.[39]

1. NVT TR I Layer 7 No. 4132

A complete anvil, roughly egg-shaped, upper surface slightly convex, under surface highly convex and shows original pebble surface, cross section roughly oval with one end broader than the other.

Max. length	160 mm.
Max. breadth	107 mm.
Max. thickness	78 mm.

2. NVT TR I layer 7 No. 4292 Fig. C4.

A small anvil, partly fractured, roughly elongated oval shaped, upper surface flat showing certain smooth patches, undersurface slightly convex and rough but shows small smooth patches, cross section roughly elliptical with one end almost flat.

Max. length	148 mm.
Max. breadth	86 mm.
Max. thickness	42 mm.

3. NVT TR V layer 4 No. 4690.

A complete anvil, oval in shape, upper surface flat and rough, undersurface convex and shows original smooth pebbly surface, cross-section plano-convex.

Max. length	164 mm.
Max. breadth	111 mm.
Max. thickness	44 mm.

4. NVT TR III Layer 11 No. 4902.

A complete anvil, flat on both the surfaces, roughly oval in shape with rectangular cross-section.

Max. length	185 mm.
Max. breadth	96 mm.
Max. thickness	38 mm.

36. *Op. cit.*, p. 1.
37. In the excavations at Nevasa (1954-55) it was found associated with partly polished celts.
38. In some specimens, as distinct from normal rough flat surface, smooth patches are seen. These are evidently due to rubbing.
39. G. Caton-THOMPSON and E. W. GARDNER, *op. cit.*, Vol. II, pl. VII, fig. 2.

LEGGED QUERNS

These are the most developed types of querns[40] with four well cut legs to support the body, obviously demanding a higher skill and workmanship. But its origin is not so clear. Distinctly enough it shows some culture diffusion. Technologically earlier type of specimens come from Adichannalur where it shows crude and definite primitive features. Throughout the early historic period [41] it becomes extremely common and in many sites replaces the saddle quern. At the beginning this type of quern shows an extremely well-made flat surface with four legs as in the Adichannalur specimens. Gradually one end is elongated and protrudes out. The end may be straight or slightly rounded.[42] In some of the developed specimens it is highly ornamented and the workmanship is at its zenith at Taxila.[43] In some cases, as in Nasik,[44] Buddhist *triratna*, *swastika* symbols[45] or simple linear decorations are seen. SANKALIA has ascribed 'Maurya-Guptan' age to these querns. All our specimens come from the early historic periods, thus supporting his dating. These, though do not completely oust the saddle querns, at least limit their number to a few.

The Navda Toli-Maheshwar specimens do not show all the different types as mentioned in the previous paragraph. All the specimens belong to the second category i. e. with one end (straight or rounded) protruding beyond the legs. On the basis of the nature of the legs the specimens can be grouped into four types.

Type I—With legs almost undifferentiated. (Pl. I, Fig. A1)

Specimens of this type have flat, broad, rather thick slab-like pieces, one in the front and one at the rear, to support the body. The extreme ends of the slabs are cut to form rudimentary legs.

Type II—With legs partly differentiated. (Pl. I, Fig. A2)

Specimens of this group have their legs better formed than in the former type. The slabs are cut almost upto the middle and the legs are more definite.

Type III—With legs differentiated but not separated. (Pl. I, Fig. A3)

40. S. B. DEO, however, described them as simple querns. (H. D. SANKALIA and S. B. DEO, *Report on the Excavations at Nasik*, p. 117), while SANKALIA called them legged querns (" Cultural Significance of Saddle Querns ", *op. cit.*, p. 37). I think a separate name must be given to it, which will differentiate it from the normal saddle querns or the querns looking like saddles. Simple " Legged quern " may be used till a better word can be found for it. Grinding stool is not a happy term.

41. H. D. SANKALIA and M. G. DIKSHIT, *Excavations at Brahmapuri*, pl. XXXI E 1952.

42. K. N. PURI, *Excavations at Rairh*, 1939-40. Pl. XVIII, fig. 5, 1940.

43. *Annual Report*, *Archaeological Surey of India*, 1926-27, pl. XXVII, fig. 5.

44. SANKALIA and DEO, *Report on the Excavation at Nasik* (1950-51), p. 117, p. XXVIII, figs. 2 and 3, 1955.

45. It is immature to say, however, whether these symbols had certain magical concepts behind it.

Specimens of this group have well formed, prominent legs. The slab is virtually absent but the legs are connected with each other near the body.

Type IV—With legs completely separated from each other. (Pl. I, Fig. A4).

Specimens of this group have their legs prominently separated from each other.

These four types have no relation with the time-scale at Navda Toli. At best they can be taken as different types with concurrent existence. NVT 834 shows a peculiar character in having a rudimentary fifth leg just at the middle of the body. The specimen is broken and as such it cannot be decided whether the rudimentary leg was to copy the genitals of a male quadruped to make the specimen nearer to a perfect zoomorphic one.

SANKALIA considers this type of querns as more handy than the present variety. Both its coming to use partially replacing the saddle quern and its going out of use being completely replaced by almost similar crude saddle querns are obscure and d·mands a special study. How much simple culture diffusion or migration was responsible we are not so certain. But this truly handy specimen certainly suggests some change in food habits. Thus while it is very good for grinding spices it is too small to make paste of rice and pulses. Even it is less efficient for grinding *haldi* (turmeric) than the bigger saddle querns. As such it may be suggested that making preparations from rice or pulse pastes went fairly out of use for certain time and use of this type of querns was limited till the period when pastes again become popular.

1. MHSR TR II Layer 11 No. 942, fig. B4.

An almost complete legged quern, made of reddish trap, with fractures at different parts, body projecting on one side beyond the legs while the other end is in continuation with the vertical line of the hind legs. The front two legs are connected together up to two thirds of the body and so is the hind pair.

Length	305 mm.
Breadth	143 mm.
Max. thickness	75 mm.
Height of the leg	83 mm.
Breadth of the leg	61 mm.
The region projected beyond the legs	50 mm. (breadth as usual is 143 mm.)

MULLERS

Marathi :—Varvaṇṭā	Gujarati :—Vāṭā
Bengali : –Noḍā	Hindi :—Pāthar
Oriya :—Silaputā	Tamil and Malayalam :—Kulari
Punjabi :—Vattā	Assamese :—Guti
Kannada :—Gundukallŭ	Telugu :—Potram

These are elongated stones, either simple undressed river worn pebbles or well dressed cylindrical objects. These form the upper or moving piece for a

saddle quern. However, they are functionally different from simple rubbers where the to and fro movement can be executed by one hand only. These mullers definitely need both the hands to hold the two ends of it and to manipulate it along the the plane at right angle to its length. The way of manipulation has not differed much from the proto-historic times (Egyptian 5th Dynasty) to the modern period.

At Navda Toli-Maheshwar, mullers occur down from the earliest layers of protohistoric period. At least two types can clearly be distinguished.

Type I- -These are made exclusively from river-worn pebbles without the slightest of retouch. With use they tend to be flat on one side. Their occurrence is strictly restricted to the proto-historic period.

1. NVT TR III layer 5, No. 4361 fig. B4.

A simple long and moderately broad river-worn pabble showing no retouch roughly pea-seed-shaped, bilaterally asymmetrical in all the places, both ends rounded as in the original pebbles, under-surface flat and smooth due probably to use, rough and pitted dorsal surface convex in varying degrees, ends show bruises as sign of use, cross section plano-convex.

Max. length	... ...	187 mm.
Max. breadth	... ...	76 mm.
Max. thickness	... ...	61 mm.

Type II—-These specimens are made from a block of stone or a big river worn pebble but only after carefully fashioning it. These specimens occur just at the beginning of the early historic period and continue even to-day.

Deo differentiates three types from Nasik.[46] They are :—

(*i*) perfectly cylindrical with round section.
(*ii*) cylindrical with slightly double concave middle portion.
(*iii*) cylindrical with middle portion broader than the ends.

It becomes obvious, however, that the three types are not typoloigcally different from one another but fundamentally show one and the same thing at different stages of use. All the three stages come from Navda Toli-Maheshwar. Besides these the following two types (stages) also occur :

(*iv*) with square or rectangular cross-section.
(*v*) somewhat long dumb-bell shaped *i.e.* the ends show knob-like bulgings.

A little note to these stages is necessary to show their relative importance. It seems to me, however, that all the types were developed from the primary stage (i) where the specimen is with an uniform and perfectly cylindrical body. Stage (ii) only justifies the statement keeping intact the cylindrical ends while the middle portion becomes double concave. A question may be raised why the ends did not suffer the same change though they were subjected to more pressure, It will be evident therefore that these mullers were used on querns whose breadths were smaller than the muller's length. Consequently our attention is drawn to the

46. Sankalia and Deo, *Report on the Excavations at Nasik* (1950-51), p. 116.

important associate type of legged querns. Whereas stage (iii) demands a broader and more favourable saddle quern with central region slightly depressed than the sides. Also it is due to the fact that the line of pressure directly passes through the ends. (iv) All the specimens of rectangular and square cross sections are also derived from the cylindrical type. We can ascertain this for two reasons. Firstly, on the negative side all the specimens with square or rectangular sections show signs of much use. Secondly, to the constructive side it will be evident from its modern parallels that the mullers were dragged on the querns and not rolled. The fifth (v) dumb-bell shape is again due to the existence of legged querns whose breadth is smaller than the mullers length.[47] In fact it is the end-preduct of stage (ii)

1. MHSR TR II Layer (5), No. 631.
   A small muller (due to the absence of sufficient numbers of smaller specimens a separate sub-type was not made;) with rough body, ends flat, cross-section rectangular.

Length	... ...	102 mm.
Breadth	... ...	53 mm.
Thickness	... ...	45 mm.

2. MHSR TR II Layer (7) No. 817.
   A complete muller, perfectly cylindrical body, body surface smooth, made from reddish trap.

Length	... ...	237 mm.
Diam.	... ...	58 mm.

3. MHSR TR II Layer (11), No. 983.
   A fragment of a muller with uniformly cylindrical body with the existing flat end bulging out like a dumb-bell ,diameter 60 mm.

HAMMER STONES

These are simple pebbles of shapes varying from an elongated drop to a thick disc. Its use, however, had nothing to do with the querns. Its association with microliths and anvils in factory sites at Navda Toli and the bruised regions at the ends or round the circumference of the disc suggests that these were used as hammers to strike off blades from the cores. Presence of a number of broken pebbles and its fragments also strengthens the idea. Their use as some sort of rubbers also may be a possibility where the surface to be rubbed is small, because always the circumference of the discoid ones bear the signs of such possible use.

Some of the specimens show battered ends such as can only be produced by repeating similar strokes in a particular region at a particular angle, in other words using it as a hammer. Their occurrence in Europe, Egypt, India, Indo-China, and other places leave very little scope for doubt about their function. Such type is technologically the ancestor of the grooved hammer-stones so common in Egypt, Mesopotemia, Danubian Europe and India.

1. NVT. TR III Layer (11), No. 4853.
   A big, roughly drop-shaped pebble with the extreme ends showing bruised regions due possibly to use.

Length	... ...	137 mm.
Max. breadth	... ...	97 mm.
Max. thickness	... ...	71 mm.

2. NVT. TR I Layer (4), No. X, fig. C5 and 6.
   A thick discoid pebble with a continuous bruised surface round the circumferenec making it flat. The bruised surface, however, is not uniform either in breadth or in the nature of bruising all throughout.

47. See K. N. Puri, *op. cit.*, p. XVIII, fig. 5.

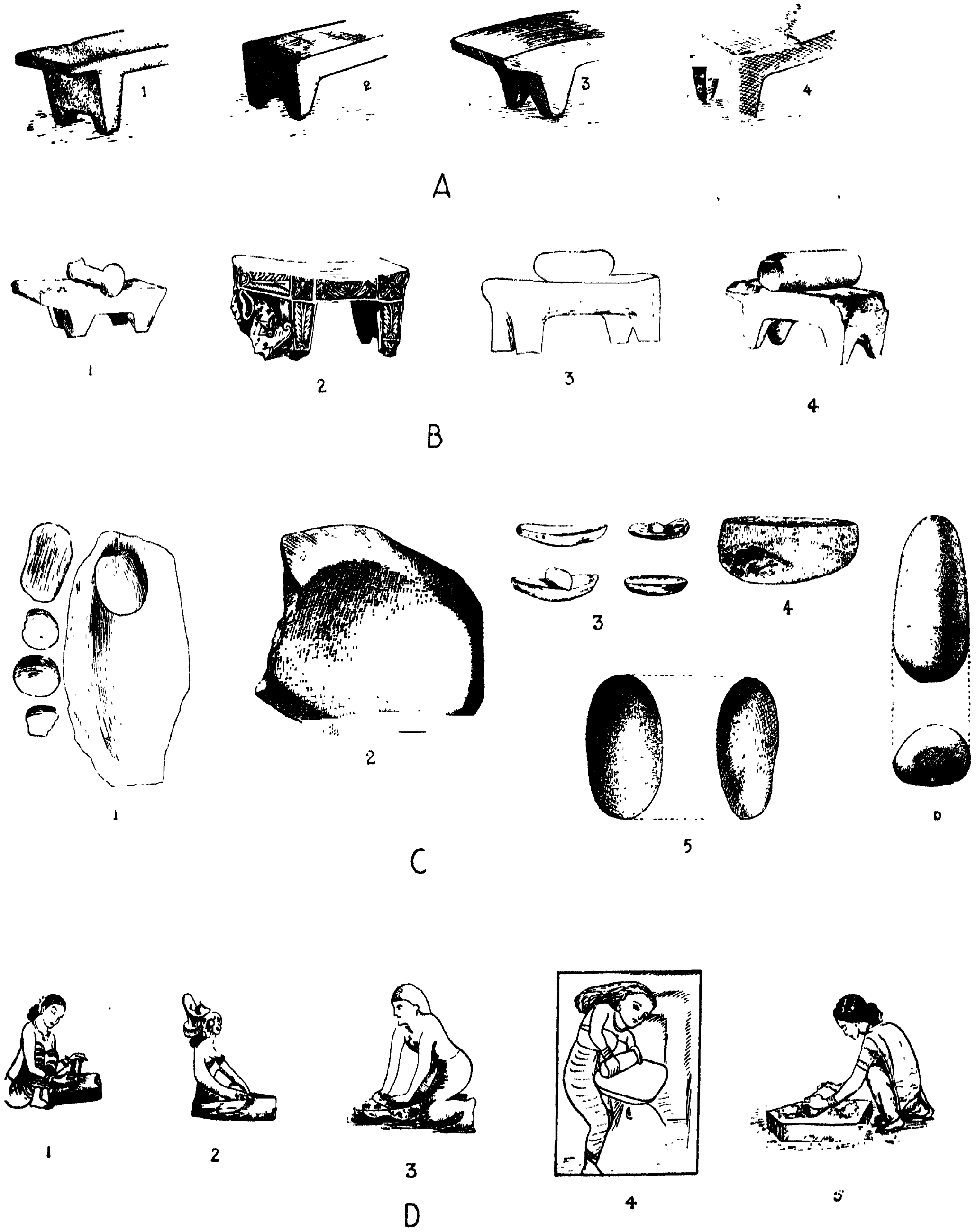
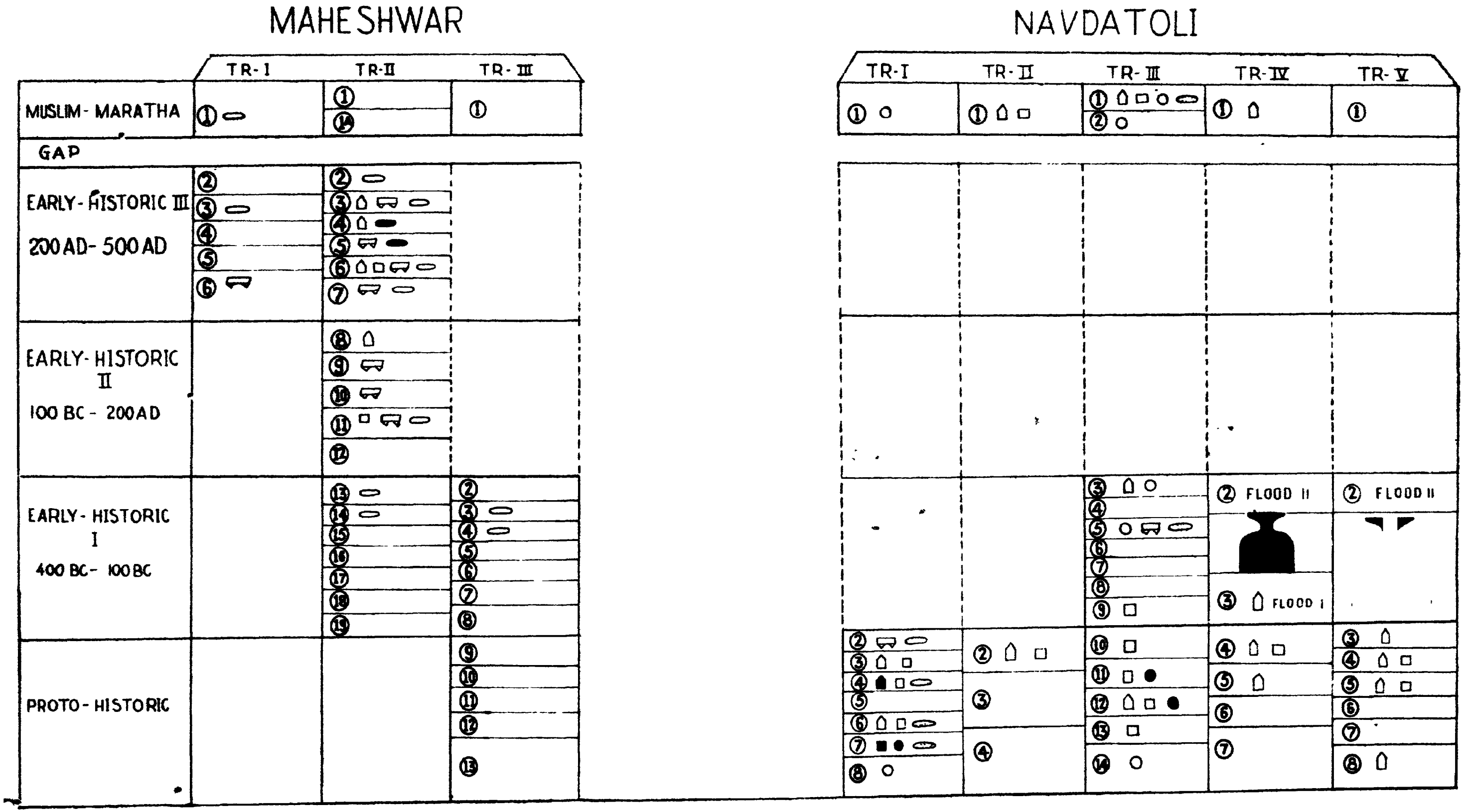


PLATE 1

(Querns and Anvils from the Narbada Valley)

A: 1—4, Maheshwar; B1, Rairh; B2, Taxila; B3, Adichannalu; B4, Maheshwar.
C1, Neolithic, Egypt; C2, NVT; C3, Mohenjodaro; C4, NVT; C5, NVT ; C6, NVT.
D1, Ajanta ; D2, Harappa; D3, Egypt; D4, ; D5, Modern.



KEY ⟶ SADDLE QUERNS - , LEGGED QUERNS - , MULLERS TYPE II - , MULLERS TYPE I - , ANVILS - , HAMMEP STONES - O ,
INCOMPLETE BUDDIST STUPA - , HIGH FREQUENCIES ARE DARK FILLED VIZ - .

PLATE 2

THE THEORY OF THE SACRIFICE IN THE YAJURVEDA

By

N. J. Shende, Bombay.

The sacrifice is an old Indo-Iranian, though not Indo-Germanic institution. Some of the old sacrifices go back, in some form or other in the common Indo-Iranian period. During the period of the Saṁhitā of the RV, this institution gradually occupied a very important place in the cultural life of the Aryans. In the period of the sacrificial literature (the YV and SV), it reached its climax. The principles involved in the theory of sacrifice supplied a basis to the philosophical thoughts in the Āraṇyakas and Upaniṣads. My object in this paper is to put forth a general outline of the theory of sacrifice as observed in the YV.

Thorough knowledge of the sacrifice is essential to secure the heavenly world. If any person attempts to perform a sacrifice without its knowledge, hunger, thirst, evil-doers and fiends harras him, even as evil spirits harras foolish men wandering in the wild forest (SB 12.2.3.12). Thus the acts in the performance of sacrifice are to be done with full knowledge. The various powers are secured by the performance of the sacrifices. He who performs Agnihotra eats food in the evening and in the morning when he comes to the heaven; for, that much is the sustenence in that sacrifice. The performer of Darśapūrṇamāsa sacrifice eats food every half month; and of the Cāturmāsya sacrifice, every four months. Finally the builder of the fire altar in the Cayana sacrifice eats food for hundred years at his pleasure or abstains from it. Thus, forever he does not eat; for, hundred years form an unending and ever-lasting immortality. This immortal life, which is secured by the performance of a sacrifice is devoid of hunger, the primary instinct of man (SB 10.1.5.4).

The knowledge of the sacrifice is secured from the three Vedas. In fact, this three-fold science is the sacrifice (SB 1. 1.4.3). The vedic metres form the sacrifice (TS 2.4.11). The sacrifice is speech (SB 3.1.4.14). Thus the Vedic lore brings forth the Yajña and is equal to it.

The sacrifice pervades all beings. All tribes (*viś*) form the sacrifice. The origin of all beings is from the sacrifice, hence they are pervaded by the sacrifice (SB 8.7.3.21). The sacrifice is the self of all beings and gods (SB 14.3.2.1). It sustains all (viśvatodhāra, SB 9.2.3.27). It has the one and the highest aim, the heaven (SB 8.7.4.6). Its blessings are overflowing (SB 8.6.1.19). It is the happiness (SB 7.3.1.34). It is the devotion (SB. 12.8.1.2). Like the gods it is invisible. Its influence is felt everywhere; but it is not seen. It is all pervading (SB 3.1.3.25). It is the navel of the world (SB 13.5.2.21).

It is identified with Viṣṇu, Prajāpati and other great deities. It is Viṣṇu (SB 1.1.2.13). Viṣṇu is the lord of the sacrifice (VS 8.22). He is the sun, inspiring and urging all. He is the sacrifice. Thus the sacrifice inspires and urges all. It is Prajāpati, the lord of the beings and the year. During the course of the year, production of life completes one turn. The sacrifice is the cause of the completing of one cycle of the year and the growth of plants and life. It is thus Prajāpati (SB. 11.1.1.1). It is his counter-part (SB 11.1.8.3). It is also Soma. When the priests press Soma, they kill him, and when they offer him in the sacrifice they cause him to be born. He is born again, though sacrificed. He is born moving (Yañjāyate). Hence he is called Yañja, but they call Yajña. Thus the Soma is sacrifice. The Soma stands for the immortal drink. Hence the sacrifice too is the cause of becoming immortal (SB 3.9.4.23). Agni is the womb of the sacrifice. When the priests perform a sacrifice they kill it, even as they kill Soma, when they crush it with mortar and pestle. The juice of Soma forming the seed of the sacrifice, is poured in Agni, who produces the sacrifice again. The sacrifice is Vāyu, which though one, becomes tenfold when he enters the body of a man. The sacrifice is the Prāṇa or the vital breath of a person. The Yajña thus creates, controls and pervades the universe and the man (SB. 11.1.2.3–4). It is the man. It is for this reason that when he performs (spreads) it, it is made exactly of the same extent as the man (SB. 1.3.2.1).

It is also identified with tortoise; for, the sacrificial cake assumed its form when the gods secured the heaven (SB. 1.6.2.3). It is the sacrificial cake, puroḍāśa (VS 1.23).

The head of the sacrifice (Yajñasya śiraḥ) is the sun in the sky. The sacrifice being Viṣṇu, its head is the head of Viṣṇu. SB (14.1.1.1 33) narrates an interesting story about this. The gods including Viṣṇu, Indra and others were performing a sacrificial session at Kurukṣetra for becoming more glorious, more excellent and eaters of more food. The gods thought that, who so ever of them through austerity, fervour, sacrifice and oblation would first encompass the end of the sacrifice should be the most excellent of them all. Viṣṇu performed that feat. So he became the most excell nt of the gods. He virtually became the sacrifice and was unable to control the pride of his glory. Taking his bow with three arrows, he stepped out, resting his head on the end of the bow. All gods stood around him, being unable to attack him. Indra at this time saw some ants moving about. He asked them to gnaw the bowstring of the bow of Viṣṇu. The end of the bow, which was gnawed by the ants struck Viṣṇu and cut off his head, which went in the sky as the sun. The head is the most important part of the body. The sun thus is the most important part of the sacrifice, as all life depends on him.

The sacrificial cake is the head of the sacrifice. This cake is made of rice and barley. Thus there is no killing of the victims in the sacrifice. SB tells an

interesting account of the evolution of the material offered in the sacrifice. At first the gods offered man as a victim. After offering, the sacrificial essence went out of him. It entered the horse. Then it entered into a bull, sheep and goat one after another. After this the sacrificial essence entered the earth. The gods searched for it by digging. They found it in the form of rice and barley. At the end, SB remarks that there is as much efficacy in all those sacrificial animals used as victims as this oblation has for him who knows this (SB 1.2.3.6-7). It will be noticed that at the time of SB alternatives for the killing of victims in the sacrifice were thought of. The puroḍāśa of rice and barley was equivalent to the offering of a horse, bull, goat or sheep killed in the sacrifice. Even in the most glorious period of the sacrifice such thoughts as these mentioned above speak of the spirit of the time. The doctrine of non-killing is not foreign to SB. This was quite natural taking into account the general humanitarian tendencies of the civilized man. The killing in the sacrifice was thus spurned, as far as possible.

The sacrifice is power. The priest claims that as he is sharpened by the Brahman, he can smash all enemies and haters of the sacrificer (VS 11.81-82).

The sacrificer (Yajamāna) is the sacrifice itself (TS. 1.7.5). He is the lord of the sacrifice (SB. 1.1.2.12). He is to be benefited by the performance of the sacrifice. It is thus fruitful to see how the sacrificer secures the ideal of his life. When he begins to perform a sacrifice he becomes a divine being. He becomes Agni himself (SB 6.3.3.21). He is intended to be born in the heavenly world (SB 7.3.1.12). He is identified with Prajāpati, the Puruṣa, who performed the primeval sacrifice. In this sacrifice, Time in the form of the year, consisting of the three seasons takes part. Thus the worldly creation is due to the constant performance of the universal sacrifice. The offering of the limbs of the Puruṣa in the sacrifice from which the whole world emerges forms the microcosmic representation of the ever-proceeding destruction and creation of the life and matter in the universe. The lord of the creation is variously named in the Brāhmaṇas, as Viśvakarman. Hiraṇyagarbha, Puruṣa, Ka, Viśvāvasu Gandharva or Brahmaṇaspati. This last name formed the basis of the philosophical discussions after the period of the Brāhmaṇas. This Universal spirit became the cause of all existence, and the higher philosophical entity i.e., the Brahman (SB 3.1.4.15). The sacrificer is born afresh, when he offers a sacrifice. He gets a new body. He becomes a divine being. The sacrifice becomes his body and delivers him from death. The offerings in the sacrifice lead him to the next world after death(SB 11.2.1.1. ; 11.2.2.5-6). This body after death is made up of the Ṛc, the Yajus, the Sāmans and offerings. He is freed from the mortal body and sins (SB 11.2.6.13).

A person secures from the performance of the sacrifice, food, progeny, fame, lustre, strength, excellent body, long life, supremacy, truth, faith, joy, ṛta, immortal life, absence of diseases, happiness, bliss, pleasing things, milk, honey, ghee, eating and drinking together, success in agriculture, gold, silver, steel, brass, iron,

lead, tin, various pulses, grams, and finally the attainment of powerful sense organs, mind, self, and the Brahman (VS 18.1-29). All gods bestow gifts on him (TS 1.2.3). · He becomes a deified being (TB 2.2.6.4).

The sacrifice thus, became the immortal, omnipotent and omnipresent spirit. The sacrificer is identified with it. His attainment of the bright body in the world after his death makes him a liberated being. He is delivered of his previous body and the sins. It will be seen thus that the YV raised the principle of sacrifice to the status of the universal creator, destroyer and all pervading Brahman. From this position the next stage was the Upaniṣadic Brahman.

The sacrifice became the highest deity. Naturally all things, connected with its performance became divinities. The altar (dhiṣaṇā) is a Goddess (TS 1.1.2) and is Tutha, the all knowing Brahman (VS 5.31). Ajā, a she-goat used for purchasing the Soma has the body of penance, and has the complexion of Prajāpati. Gāyatrī took Ajā with her to bring Soma from the gods (VS 4.26 ; TS 1.2.7). The victims killed in the sacrifice became deities (VS 6.14). A branch of palāśa tree, used for driving off the calves from the cows, whose milk was required for the sacrificial offering, is a deity (TS 1.1.1 ; VS 1.1). It is the Brahman (SB 1.3.3-19). All implements of the sacrifice such as sruc, sruva, juhu etc., are charged with the divine power (TS 1.1.10). Ghee falling down in the fire from the ladle is the truth (TS 1.6.1). The blades of darbha grass used as strainers (pavitras) are Viṣṇu (SB 1.1.3.1). They are the essence of the sacrifice (TS 1.1.2). They are the steeds of the Maruts (TS 1.1.13). The caldron used for heating milk in the pravargya rite belongs to Mātariśvan (SB 1.7.1.11). The grains of rice used for offering are the body of Agni (SB 1.1.4.8). The cups used for offering oblations are the self-existing deities (VS 7.3.29). On the two pillars at the eastern gate of the pendal for keeping offerings, a pole is fixed for suspending a garland of darbha grass from it. It is called the forehead of Viṣṇu. The whole pendal is for Viṣṇu (VS 5.21). The sacrificial post (Yūpa) is the symbolical ladder for reaching the heaven. The sacrificer and his wife mount this post. The sacrificer prays that his life should be filled with vigour, vitality, and full powers of senses. He says, 'We have become the progeny of Prajāpati. We have reached the heaven. "We have become immortal" (VS 9.21). The cows used in the sacrifice deserve worship (VS 3.20). The black ointment used by the sacrificer for his eyes is the pupil of the eye of Vṛtra (TS 1.2.1). When Vṛtra was killed his eye was transformed into a mountain (SB 3.1.3.12). The skin of the black antilope is the skin of Aditi (TS 1.1.5). The sacrificer takes it as his seat as it symbolises sacrifice. Sacrifice once escaped from the control of gods and becoming a black antelope wandered about. The gods found it out. They stripped it of its skin and brought the skin along with them to be used in the sacrifice. The black and white strips are the ṛcs and sāmans. The brown and yellow ones are the Yajus (SB 1.1.4.1-2 ; VS 4.9). This skin is asked to ascend to the eye of the sun and pupil of the eye of Agni, so that it may see through them, It is shining like these two deities and is borne

by Etaśas, the horses of the sun (VS 4.32). The girdle worn by the sacrificer belongs to Aṅgirasas. Its knot belongs to Soma (VS 4.10). The black horn used by him for scratching his body is the birth place of Indra (TS 1.2.2 ; VS 4.10).

The garment of the sacrificer is divine. The woof of this cloth belongs to Agni and the warp to Vāyu, the thrums to the Fathers and the closly woven part at both end (pragraha) to the snakes and the threads to all-gods, and the meshes to the asterisms. Thus all deities are concerned therein. SB further explains the origin of the garment of a man. Originally, man put on the skin which now the cow puts on. It was given to the cow by the gods out of sympathy for it. They gave a man the garment to replace his skin (SB 3.1.2.13-18). The garment is the body of consecration and penance (VS 4-2). It causes happiness to Viṣṇu (VS 4.10). The staff of the divine Uduṁbara tree is taken by the sacrificer (TS 1.2.2). The priestly fees (dakṣiṇā) becomes a bird and takes him to the heaven (TB 2.2.5.6). Gold which is used as dakṣiṇā belongs to all-gods (VS 4.18). The enclosures of the altar (paridhis) are the Gandharva Viśvāvasu (TS 1.1.11). The cart containing the offerings is well joined by the gods (TS 1.1.4). Its axle is presided over by a deity (TS 1.2.13). The two ends of the axle are well known among the gods (VS 5.17). The cart is the divine sacrifice (SB 1.1.2.7). The pole of the cart is agreeable to the gods and belongs to them (SB 1.1.2-12.). The chariot used in the Vājapeya sacrifice is the thunderbolt of Indra (TS 1.1.7; VS 9.1).

It will be noticed from the description of the sacrifice, sacrificer, and objects connected with the sacrifice that the sacrifice was raised to the status of the all pervading and omnipotent spirit, which is named as the Brahman. The evolution in the material for offerings gives us clearly the ideal before the thinkers of this time. It is quite reasonable to imagine that this idea of sacrifice itself resulted into the doctrine of the Brahman and Ātman in the Upaniṣadic period, without any revolt or revolution, but just by the process of evolution.

SYMBOLIC FORMS IN BENGALI[1]

By

EDWARD C. DIMOCK

1. There is, in Bengali, a very large number of what might be called, in BLOOMFIELD's terminology, "symbolic forms" : forms which "have a connotation of somehow illustrating the meaning more immediately than do ordinary speech forms ... examples are *flip, flap, flutter, ... snip-snap, zig-zag* ...",[2] etc. ; the type of form which is more usually and loosely called 'onomatopoetic.' There is such a number, in fact, that Ramendra Sundar TRIBEDI has said (approximately) that "if these onomatopoetic (*dhvanyātmaka*) words were left out of the language, speakers of Bengali would be tongue-tied."[3] TAGORE has not gone that far, but has merely said that "descriptive speech would be difficult", without them.[4] That a good deal of attention has been paid to this class of forms by writers on Bengali in Bengali might indicate the relative importance of it in the language; also, perhaps, that it is a class more obvious and more readily definable than its equivalent, say, in English. It is, in Bengali, formally distinct, for example ; it is largely, (but not entirely), made up of forms of the 'echo-word' type : forms of structure CV-, VC-, or CVC(V)(C)-, reduplicated, with, but more often without, phonemic variation in the initial consonant of the reduplicated portion. The present paper, then, the first of two, will attempt a sub-classification of these forms. The second will be concerned with the definition of the form class, and the structural and syntactic analysis.

2. It is perhaps worthwhile wondering, with current movements in India indicating a growing desire for mutual understanding of regional languages, particularly from a literary point of view, to what extent such symbolic forms, as a class within any given language, occur within the linguistic area of India as a whole ; and to what extent, (if at all), individual forms within such classes are intelligible throughout India, or at least the Indo-Aryan speaking portion of it.

2.1 That such forms do occur in other languages is clear, even from the meagre data at hand. Hindi has/pəṭpəṭ/, the sound of beating ; / jumjum/, steady rain falling ; Marathi has /kəṭ kəṭ/, a "tiring, annoying noise"; /kəṇ kəṇ/, the

1. My thanks go to Dr. William Q. BRIGHT, Dr. Sukumar SEN, Dr. P. B. PANDIT, Dr. H. A. GLEASON and Dr. William McCORMACK, all of whom read the paper before its publication, and many of whose suggestions are incorporated in it.

2. Leonard BLOOMFIELD, *Language* ; New York, 1933 ; p. 156.

3. *Rāmendra-racanāvali*, Volume III, the essay entitled *Dhvani-vicāra*, (in Bengali), of the collection *Śabda-kathā* ; Baṅgîya-sāhitya Pariṣad, Calcutta, BS 1356 ; p. 8.

4. *Rabindra-racanāvali*, Volume XII, the essay entitled *Śabda-tattva*, (in Bengali) ; Visva-bhāratî, BS 1349.

"sound of bangles", or "feeling of slight fever"; /kil kil/, the "chirping of birds, at dawn"; /sər sər/, the "sound of sari rustling".[5] And in at least one Dravidian language: Kannada[6] /pic pica/, "sticky"; /paṭ paṭa/, "throbbing", etc.

2.2. The data is not yet enough to enable any kind of valid comparative conclusions to be drawn. The possibilities, however, are interesting. It is conceivable, for example, that the phonaesthetic[7] principle of Professor Firth plays a part in the definition of these forms, in Bengali. If this is so, the same might hold true for other Indian languages as well. And if this, in turn, is so, the interesting further possibility of such 'phonaesthemes' crossing over language boundaries within the linguistic area of India arises.[8] Or, to follow it to its logical conclusion, if such forms as these under discussion are, as FIRTH puts it,[9] the "phonetic equivalents of the contexts of experience," to what extent does common expression of common "contexts of experience" within India go; to what extent do the sub-cultures of India—if linguistic features such as this can be considered functions of culture—overlap one another.

2.3. TRIBEDI[10] feels that, at least for Bengali, these forms are indigenous (*deśaja*), and that their derivation is non-Sanskritic. Evidence would seem, roughly, to be in favor of this. Reduplicative forms do occur, occasionally, in Sanskrit,[11] and the force of reduplication in Sanskrit—continuation, repetition, change in intensity—is paralleled in at least one class of reduplicatives in modern Bengali. (See below, section 4.2). On the other hand, Apabhraṃśa texts are full

5. Marathi forms here from the writer's notes; below, Marathi forms are from S. M. KATRE. *Reduplicatives in Indo Aryan*, in *Bulletin of the Deccan College Research Institute*, December, 1939,

6. For all Kannada forms, I am indebted to William BRIGHT of Bangalore.

7. The term is used to mean the possibility of assigning an emotional, symbolic value to certain phones in a language. See FIRTH, *Speech*, London, 1930, pp. 50 ff.

8. For significant data on the question, it would be necessary to compare all the Bengali forms available with those of a non-contiguous Indo-Aryan language such as Marathi, then to compare them to those of a Dravidian language, say Kannada, and to compare the Kannada forms to those of, say, Malayalam. Which would be a very large undertaking, particularly since, as far as I know, phonemic analyses of these various languages have not yet been published. A few comparisons have been made between Bengali and Kannada, and between Bengali and Marathi, which give, as BRIGHT says, what might be "negative indication for the India-wide spread of the phonaesthemes involved." Work has not as yet been extensive or systematic enough, however, to allow conclusions to be drawn.

9. *Speech*, p. 51.

10. *Dhvani-vicāra*, p. 9.

11. See KATRE, *Reduplication in I-A*; Jules BLOCH, in *L'Indo-Aryan du Veda aux temps modernes*, (Libraire d'Amerique et d'Orient, Paris 1934, pp. 162 f.), describes it this way: "Un type de formation dont il n'existe que des traces en sanskrit est le redoublement des mots, la forme, redoublée étant d'ailleurs susceptible d'alteration arbitraire. Le sanskrit exprime par la répétition le renouvellement ou la répartition: divédive—tous les jours, sadaḥsadaḥ—chacun sur un siège; cf. (Pali) pabbaṃpabbaṃ (noeud par noeud), (Prakrit) késākési 'cheveu par cheveu). ...elle est susceptible de fournir des noms et des verbs. Elle s'annonce en sanskrit classique et en moyen indien par quelques mots exprimants des bruits—skt. (Patañjali) jhalajjhalā (égouttement)...(etc. He goes on to give examples from Bengali and other modern IA languages)....Dans l'Inde elles tiennent probablement aux circonstances locales..."

of such forms[12], reduplicated and triplicated, which are paralleled in three of the four subclasses in modern Bengali. (Sections 4.1, 4.2, 4.3 below.)

3. These symbolic forms seem to represent a kind of unstudied poetry of the spoken language. They have, in common with conscious poetry, a "somehow" of aptness of suggestion. They are not terms of clarity, specificity, or directness; their aim is implication, subtlety of suggestion. They give the hearer the rare pleasure of using his imagination. And, like conscious poetry, they are, for all practical purposes, untranslatable.

3.1 FIRTH calls Swinburne a "phonetic poet"[13], and, therefore, the most untranslatable of all English poets. Anyone who has tried to translate poetry, and particularly lyric poetry, from any language, will know what he means. The emotion aroused by poetry — and, in the present case, by poetic forms — is in some way inseparable from the background, linguistic and cultural, of the hearer. A Bengali friend tells me that when he hears Rabindranath's line

/bælaje pore elo jɔlke cɔl/[14],

he hears the sound of water lapping against the sides of a pitcher being carried by a woman from the village tank. Some of the greatness of Rabindranath undoubtedly lies in this: that he speaks to something deep within all Bengalis. To the present writer, a non-Bengali and non-Indian, the line has music, but can never mean more than that. The image of a woman carrying water from a village tank, and the emotions, the sounds, and the colors, associated with it, are not a part of me.

So with symbolic forms. /jhãjhã/, to me, has pretty much its dictionary meaning of "fierce heat of the sun." To a Bengali friend, it means "the town in the middle of the day, when the shutters of the houses are closed and the air simmering; when the men are at work, and the women behind the shutters are about their household tasks..." etc. The point is, as Rabindranath points out,[15] that the "delicacies of distinction (of these forms) are impossible for a foreigner to grasp."

3.2 To Indian non-Bengalis, then? Dr. Biswanath PRASAD indicates[16] that the rules laid down by the Sanskrit rhetoricians are still taken into consideration, in traditional forms of music and poetry: that the retroflex series is not appropriate

12. Apabhraṃśa texts from which the data below is taken are the 6th century *Paumacariu* of Kavirāja Svayambhudeva, edited by Dr. Harivallabha Cunīlāl BHAYANI, published from the Bhāratīya Vidhā Bhavan, Bombay 1953, and the *Mahāpurāṇa* of Puṣpadanta, in the edition of P. L. VAIDYA.

13. *Speech*, p. 52.

14. From *Badhu*; a prosaic translation might read: " As the evening falls, (she) goes to the (tank, for) water..."

15. *Śabda-tattva*, p. 378.

16. *A Phonæsthetic Aspect of Retroflexion*, in the *Chatterji Jubilee Volume, Indian Linguistics* Volume 16, November 1955.

for certain *rasas*, etc. If this is true, there is some potential for a degree of unity among Indo-Aryan languages in terms of phonetic symbolism, although it might, in this particular case, be more arbitrary than not. To what extent this sort of thing is valid, however, in terms of the inter-relationships of modern spoken languages, is somewhat more questionable. Bengali friends tell me that the retroflex series, with the possible exception of the flap, sound no more harsh to them than any other group of sounds. This would bear out a point on which FIRTH and BLOOMFIELD seem to be in agreement : that there is "no inherent phonaesthetic value in any speech sound"[17] with the implication that sound symbolism, therefore, can go no farther than language, or, at most, language family barriers. The term "inherent", of course, allows for cultural conditioning. Even so, if it can be shown that symbolic values can be assigned to certain phonemes, in Bengali, and that at least some of these are phonaesthetically determined, the possibility of an India-wide, or at least Indo-Aryan-wide distribution of such values is there. A discussion of the extent to which they do cross over language boundaries will have to wait until more data is gathered from the various languages of India, and correlated.

4. Symbolic forms in Bengali fall roughly into four categories : [18]

4.1. Forms objective/imitative of sounds other than speech sounds.

Exx. [19] *a.* /khilkhil/, "laughter, particularly feminine." (cf Apabhraṃśa kilkil - Pc 32/3/9 "chuckling, Kannada /kil kili/, "giggling", Marathi /kil kil/, "chirping of birds at dawn".

b. /gumgum, gungun/, "humming sound". (cf Apa. gumgumgum (anti)- Fc. 40/16/6, 51/1/5, "humming")

c. /ṭɔŋṭɔŋ/ "sound of bell or chime". (cf Apa. ṭaṇṭaṇ (anti)- Pc. 46/1/2- "chiming")

d. /khɔlkhɔl/, "gurgling laughter, as of a baby". (cf Apa. khalakhalakhal (anti)- Pc. 31/3/6/, "gurgling".

e /kɔckɔc/, "rasping, cutting noise". (cf Mar. /kac kac/, "screaming of crane".

f /khɔṭkhɔṭ/, "sound of hand-loom". (cf Mar. /khaṭ khaṭ/, "clap-clap".)

Long lists of this type can be made, with and without Apabhraṃśa parallels. And, if there is any overlap of linguistic boundaries by individual forms, it would

17. *Speech*, p. 54 ; TRIBEDI, on the other hand, holds that some sounds are intriniscally more pleasing than others—that the sound of the flute, for example, which is represented by /phuuphuu/, is by its nature a soothing sound ; see *Dhvani-vicāra*, p. 10.
18. KATRE, (*op. cit.* p. 66), also gives four classes, of somewhat different boundaries.
19. Marathi and Gujerati forms are from KATRE, *op. cit.* ; Kannada forms are from BRIGHT ; Apabhraṃśa forms are from the *Paümacariu*, and the glosses are Dr. BHAYANI's.

seem, impressionistically, as though it might be in this category. Theoretically, however, the number of such imitative forms of common stock would be limited, both by cultural differences, and by the fact that the same sound is open to rather widely varying interpretation, even within a linguistic area : that the Kannada dog says /bhaw bhaw/, (and the American dog /baw waw/), is altogether as unlikely as the Bengali dog saying/gheugheu/, or the Marathi dog /bu bu/.

Further, these imitative forms have finer distinctions, in Bengali. For example, Bengali will often use the vowel phonemes /ɔ/, /u/, and /i/, in the same phonemic environment, to indicate a change of quality or quantity of the sound imitated. Thus, while /ṭhɔnṭhɔn/ is "hammering on metal", or a blacksmith's heavy hammering, /ṭhunṭhun/is " hammering on glass", or a watchmaker's hammering ; while /jhɔmjhɔm/ is the souud of dancer's heavy anklet, or the falling of heavy rain, /jhimjhim/ is drizzling rain, or, in Tagore, the feeling of vertigo which slow, continual rain establishes in one's mind; while /khɔkkhɔk/ is a heavy, dry, diseased cough, /khukkhuk/ is a slight cough, conscious, to attract attention, and /khikkhik/ is a giggle ; while/jhɔrjhɔr/ is a stream of water falling from a height, /jhirjhir/ is the trickling of brook; while /ḍhɔkḍhɔk/ is a thirsty gulping of water, /ḍhukḍhuk/ is sipping; while /thɔpthɔp/ is the graceful, heavy stride of an elephant, /thupthup/ is the careful, almost painful step of an old man; while /dhɔkdhɔk/ is a fire burning brightly and crackling, /dhikdhik/ is a fire burning low. And so on.

In a great many cases, also, general meaning has developed from the specific, imitative meaning; and often, both meanings are still in use. Thus, /ḍhɔnḍhɔn/, the sound of knocking on something empty or hollow, (cf. Gujerati ṭhanṭhan, "hollow sound", ḍhanḍhan, "clanking sound"), has come to mean also simply "empty", as a pocket ; /cɔbcɔb/ or /cɔpcɔp/, the sound of someone walking in wet clothes or through wet grass, means, also, simply "soaking wet"; /booboo/, the sound of the horn of an automobile going by an high speed, means also simply "fast"; and, as seen above, interpretation of Tagore is changing the meaning of /jhimjhim/, as well.

4.2. Forms derived from stems of other classes.

Stems from which these forms are derived are stems which already have something of the apt expressive quality of symbolic forms. This sub-class of forms is parallel to forms found in Apabhraṃśa, and its characteristic is change in the intensity of meaning of the stem, by the usual method of making such change : reduplication. In many cases, the meaning has changed in quality as well as quantity, but usually so slightly that the derivation remains clear. Thus, /bhɔybhɔy/, "slight feeling of fear", from /bhɔy/ "fear"; /gɔlgɔl "overcooked, soft", from the verb stem /gɔla-/, "melt"; /jɔljɔl/, "glitter, burn brightly", from the verb stem /jɔla-,/, "burn"-(cf. Apa. jalajalajal (anti) - pc. 27/5/7); etc. In these cases, specific reference has derived from the general. The reverse is also

true : /chipchipe/, "slender", from /chip/, "a long, narrow fishing boat; a fishing rod".

4.3 Forms derived from stems of other classes, but alway having the form CVV-or CVCV-reduplicated, with the final vowel of the reduplicated portion always being replaced by-i; further, these forms always have the meaning "mutual action", or "extreme quality". There are parallels in both Sanskrit and Apabhraṃśa.[20] Thus, /dhɔradhori/, "mutual holding or grasping", (cf. Apa. dharādhari, "fight with mutual seizure"-Pc. 52/9/2); /karakari/, "mutual snatching"; /maramari/, "mutual striking"; /dækhadekhi/, "mutual looking", /hāsahāsi/, "mutual laughing' /taratari/ "immediately, quickly"; /kɔrakori/, "extreme strictness"; etc.

4.4. There is a large residue of forms, with no clear derivation, no clear reference to more ordinary stems, and no clear imitative basis. It is this fourth sub-class which seems to adapt itself most readily to the term 'symbolic forms'; and it is this fourth sub-class which is intrinsically the most interesting, because of its very indefinability. TRIBEDI puts it this way :[21] "That we laugh *hihi* or walk *khaṭkhaṭ* is easily understandable...but how does one explain (by sound) being *gasgas* in anger...no real significance is able to be seen in such words, but still they are wonderfully suggestive." And TAGORE thus :[22] "Not all words of this (general) type are based on *dhvani* - they are related not only to the sense of hearing, but to many senses... they have (only) a special, long-distance relationship with sound : thin, slender objects are described by *phin phin, phur phur*, (etc.). These objects do not necessarily make this sound, but somehow it is suggested."[23] And he goes on to discuss the relationship between the visual sense in, among other things, a fire burning brightly, and the term /gɔngɔn/, which is suggestive of it.

20. KATRE, *op. cit.*, p. 62 : " In classical Sanskrit certain types of compound expressions have come into existence, the forms being mostly attested by grammarians : thus *keśākeśi*, *hastāhasti*, " hair to hair, head to head," " hand to hand, in close fight," respectively. Similar indeclinable compounds are *muṣṭāmuṣṭi*, " fist to fist, fighting hand to hand," (etc.).

Apabhraṃśa forms seem to fall also mostly within the area of description of combat : *chindāchindi*, " fight involving mutual piercing with weapons " (Pc. 52/9/5), *ghuṇāghuṇi*, " fight involving mutual seizure " (Pc. 52/9/2), *pādāpādi*, " fight involving mutual pulling down " (Pc. 52/9/8), etc.

21. *Dhvani-vicāra*, p. 9.

22. *Śabda-tattva*, p. 337.

23. The " somehow " of all these statements is worth some speculation : why are symbolic forms symbolic ? BRIGHT has perhaps gone a long way toward the answer (in a letter to the present writer, dated 30th September, 1956). He says : "...he (BLOOMFIELD) seems to imply that *flip*, for example, has its psychologically vivid effect just because of its membership in a class with *flap* and *flop*. So, in a sentence where only *flip* occurs, you might say that its symbolic quality is covert. Where the sequence *flip-flop* is found, the symbolic quality is overt, manifested not just in a class membership, but in the CVC-CV'C pattern. ...Can we say, then, that a child learning English, or Bengali, learns to associate emotionally interesting phenomena with these patterns, and that each thereby becomes a stimulus for the other ? So to a person so raised, the phenomena may elicit an utterance in one of these patterns, and hearing such an utterance will give the feeling of the phenomena....So I am suggesting that the psychological vividness involved in these symbolic forms is a direct function of their formal characteristics : membership in an ablaut class, reduplicative construction, special syntactic characteristics, etc...."

Both TAGORE and TRIBEDI have given long lists of forms of this type, in the places cited, and there is little need of doing it again. However, both of them seem to assign the 'phonaesthetic nucleus' of the form to the initial consonat. It seems to me that the nucleus could be thought of as the basic vowel of the stem with as much, if not more, profit. In any case, the list below is based on that assumption.[24]

4.4.1. /ɔ/, with the highest percentage of total occurences, is, not surprisingly also distributed over the widest range of symbolic values. And, of the total number of occurences of /ɔ/, three categories make up the largest part :

4.4.1.1. Extremity, in terms of quantity or quality. There is very large number of such forms, as /kɔskɔs/, "extreme heat"; /gɔngɔn/, "(fire) burning at the peak of its brightness"; /cɔṭpɔṭ/, "great hurry"; /jhɔkmɔk/, "shine very brightly, as a highly polished floor ; /tɔcnɔc/, "breaking willy-nilly, bring about complete ruin ; /pɔnpɔn/ or /bɔnbɔn/, "very rapid motion, as running"; etc.

4.4.1.2. Throbbing, shaking, glittering, or flickering motion or appearance. As /bhɔlbhɔl/ "(blood or water) being pumped or flowing in spurts"; /dɔpdɔp/, "throbbing (of blood or pain)"; /ṭɔlmɔl/ "wavering walk, as of an old man or child"; /bhɔkbhɔk/ "puffing, as a steam engine or boiling kettle"; etc.

4.4.1.3. Rottenness or softness. As /pɔcpɔc/, "feeling of an over-ripe fruit"; /bɔjbɔj/ "tank or pool which is stagnant or foul"; /thɔsthɔs/, "feeling of dough"; etc.[25]

4.4.2. As mentioned before, (section 4.1.), /u/ indicates a lesser degree of the value of /ɔ/, in a very large number of cases. Apart from this, there is a number of forms in /u/ which themselves indicate extremity, particularly of color. As /ṭukṭuk/, "extreme brightness of color, particularly red"; /kuckuc/, "extreme darkness or intense black color"; /ghutghut/ "extreme darkness"; etc. Most of the other forms in /u/ seem to be more or less isolated cases : /kuṭkuṭ/, "itchy feeling"; /gũrigũri/; "drizzling rain"; etc.

4.4.3. / æ / is the best case in the series. All forms in / æ / indicate something decidedly unpleasant, either in the nature of the thing indicated, or its effect upon the speaker. Thus, / kæṭkæṭ / indicates a color or combination of colors which is extremely harsh; / kæṭkæṭ / indi ates a shrewish, loud-voiced woman; /ṭækṭæk / somthing annoying or vexing; /pæcpæc /, thick, distasteful mud or dirt; /pænpæn/ a child wheedling or crying for a long time; etc. The effect of any of these forms may be heightened by nasalisation.

24. Obviously, the idea of sound symbolism cannot be carried too far. There are many exceptions to the pattern given below ; the pattern presents itself because of majority, not unanimous, concurrence.

25. In this particular case, some of the symbolic value may lie in the palatal affricates and sibilants, as well.

4.4.4. / i / is, again, largely consistent; its value is lightness, and, sometimes, insubstantiality. Thus, / khikkhik / is a baby's laugh, / ṭiŋṭiŋ / is something very tall and thin, /ṭimṭim/ is a lamp guttering, / jikmik / the twinkling · of stars, / liklik / something slim and swift, like the tongue of a snake, / minmin / is a timid person, a person who cannot speak frankly, / dhikdhik / is a fire burning low, etc.

4.4.5. The two remaining vowels, / a / and / o /, occur very infrequently, and it is hardly possible to draw valid conclusions on the strength of their few occurences. It is, perhaps, significant, that when / a / occurs nasalised, the reference is to "extremity of an unpleasant type" : / gããgãã / "shouting at the top of ones' lungs"; / jhãjhã / and / khãkhã / both indicate the fierce heat of the sun. It is possible to make no further statement.

JAYANTABHAṬṬA AND THE VEDAS*

By

H. G. Narahari

For many years it was my privilege to know Dr. I. J. S. Taraporewalla as a great Vedic scholar who had the rare ability to approach Vedic problems with a very thorough Avestan back-ground. He had read carefully much of what I have written about the Veda and offered me very valuable advice from time to time. To this Volume dedicated to his memory I can do no better than offer a paper which, were he alive, would have brought me his learned comments.

Professedly the *Nyāyamañjarī* of Jayantabhaṭṭa is only a gloss (*vṛtti*) on select Nyāya aphorisms of Gautama, but it is really an independent treatise whose object is to establish the supremacy of the Nyāya view in contemporary thought. As a result the work takes upon an encyclopaedic character and may even be looked upon as a sort of medieval history of Indian Religion and philosophy.

An early aphorism[1] of Gautama is Jayantabhaṭṭa's opportunity to expound some of his very valuable views on Vedic literature. It is not possible to consider all these views within the length of the present paper. I select for consideration now only *two* of them, the one concerned with the authorship of the Veda and the other with the place of the *Atharva* among the *four* Vedas.

Now, the authorship of the Vedas is one of those subjects where opinion is sharply divided between modern scholars and those that go by the name of traditionalists; the latter believe that the Vedas have really no author at all and, if each hymn or group of hymns is associated with the name of a *Ṛṣi*, it is only because that particular *Ṛṣi* 'saw' or 'discovered' it; according to the former, 'seeing or discovering' a hymn is only a euphemism for 'composition' and the Veda, as an aggregate of the compositions of a large number of *Ṛṣi*s, is of collective authorship.

* In a summarized form this paper was submitted to the XVIII All-India Oriental Conference, Chidambaram, December 1955. The following abbreviations are used by me in this paper :—

AV	= Atharvaveda	NS	= Nyāya Sūtras of Gautama
Ch.Up.	= Chāndogya Upaniṣad	RV	= Ṛgveda
GPB	= Gopatha Brāhmaṇa	ŚB	= Śatapatha Brāhmaṇa
MB	= Vyākaraṇa Mahābhāṣya of Patañjali	TB	= Taittirīya Brāhmaṇa
		TS	= Taittirīya Saṁhitā
MMS	= Mīmāṃsā Sūtras of Jaimini	VP	= Viṣṇu Purāṇa
MN	= Mahānārāyaṇa Upaniṣad	VS	= Vaiśeṣika Sūtras of Kaṇāda
MS	= Manu Smṛti	YS	= Yājñavalkya Smṛti.
NM	= Nyāyamañjarī of Jayantabhaṭṭa		

1. *Nyāyasūtra*, I.1.7.

Jayantabhaṭṭa, as a true Naiyāyika, is naturally as averse as the modern scholar to the theory of the authorlessness of the Veda, a theory which, to him, has its origin only in the fancy of the Mīmāṁsakas. It is Jayantabhaṭṭa's firm view that, as a verbal composition, the Veda must have an author and in this respect it cannot be different from any other literary work (*Vaidikyo racanāḥ kartṛpūrvikāḥ racanātvāt laukikaracanāvat*).[2] If the Mīmāṁsaka would have[3] that the Veda, as a text orally learnt from a teacher (*gurvadhyayanapūrvaka*) is really beginningless (*anādi*), it can be pointed out that the case of the Mahābhārata is not different. If the Mahābhārata has its author in Kṛṣṇadvaipāyana *alias* Pārāśarya, so has the Veda in Prajāpati. Prajāpati cannot be distinguished as an invisible author because no one alive now nor any of his immediate ancestors has ever seen Dvaipāyana:[4]

अथ प्रणेता वेदस्य न दृष्ट: केन चित्क्व चित् ।
द्वैपायनोऽपि किं दृष्टो भवत्पितृपितामहै: ॥

And it is no valid reason to adduce to say[5] that the Veda cannot have an author as no one remembers him (*asmaryamāṇakartṛkatva*). Is it ever conceivable asks Jayantabhaṭṭa.[6] that there can exist, by itself, an arrangement of words without a human agency ? :

न हि पुरुषमन्तरेण क्व चिदक्षरविन्यासो दृष्ट: ।
भो भगवन्त: सभ्या: क्वेदं दृष्टं क्व वा श्रुतं लोके ॥
यद्वाक्येषु पदानां रचना नैसर्गिकी भवति ॥
यदि स्वाभाविकी वेदे पदानां रचना भवेत् ।
पटे हि हन्त तन्तूनां कथ नैसर्गिकी न सा ॥

As an arrangement of words, there can be no difference between *Śaṁ no devīr abhiṣṭaya* on the one hand and *Nārāyaṇaṁ namaskṛtya* or *Asty uttarasyāṁ diśi devatātmā* on the other. If, inspite of all these arguments, the Mīmāṁsakas still see a speciality in the Vedic sentence and adduce the reputation (*yaśas*) they enjoy among the orthodox, the Naiyāyika can only say he can find no valid reason for this preposterous theory :

मीमांसका यश: पिबन्तु पयो वा पिबन्तु बुद्धिजाड्यापनयनाय
ब्राह्मीघृतं वा पिबन्तु वेदस्तु पुरुषप्रणीत एव नात्र भ्रान्ति: ॥

As a text the Veda may have a special status as compared with the *Mahābhārata* or *Kumārasambhava*. To maintain this status it is not at all necessary for the Veda to be authorless; a *special* work can have a *special* author (*yad*

2. NM., I. 213.
3. *Ibid.*, I.214.
4. NM., I. 214.
5. *Ibid.*, I. 215 f.
6. *Ibid.*, I. 216.

vilakṣaṇeyaṁ racanā tad vilakṣaṇa eva kartā'numīyatām).[7] Even in the case of popular works whose authors are known, each work has its own distinctive value. Soaked in honey, smeared with the cool paste of the sandal and pulverized by the rays of the Moon are the sweet words of Kālidāsa[8] :

अमृतेनेव संसिक्ताश्चन्दनेनेव चर्चिता : ।
चन्द्रांशुभिरिवोद्घृष्टा : कालिदासस्य सूक्तय: ॥

And Bāṇa bewitches all other poets by his sparkling words arrayed dexterously so as to yield rich meaning suiting each particular context (*prakaṭarasānuguṇavikaṭākṣararacanācamatkāritasakalakavikulā bāṇasya vācaḥ*).[9]

If, like Pāṇini or Piṅgala, this special author is not also well-known, it is either because of the extreme antiquity of the composition of the veda (*Vedakaraṇakālasyātidavīyastvāt*) or of the peculiarity of the body of this being as compared with that of all ordinary human beings (*sakalapuruṣavilakṣaṇatvāt*). But His existence cannot be denied for He is known by Inference (*Anumāna*) and Verbal Testimony (*Āgama*).[10] Even as the weaver can be inferred by looking at the cloth woven by him, so is the author of the Veda known by looking at it:[11]

पटादिरचनां दृष्ट्वा तस्य चेत्साऽनुमीयते ।
वेदेऽपि रचनां दृष्ट्वा कर्तृत्वं तस्य गम्यताम् ॥

Since a composition like the Veda can be the work only of an omniscient (*Sarvajña*) Person, this author is no other than God (*Īśvara*) who created elements like the Earth (*yenaiva kartrā pṛthivyādikāryaṁ nirmitam*).[12] And even as Īśvara could create the entire variegated Universe single-handed. so did He compose all the four Vedas, Ṛg, Yajus, Sāma and Atharva, which are all concerned with the same religious act (*Karma*)[13]:

कर्त्ता य एव जगतामखिलात्मवृत्ति-
कर्मप्रपञ्चपरिपाकविचित्रताज्ञ : ।
विश्वात्मना तदुपदेशपरा : प्रणीता-
स्तेनैव वेदरचना इति युक्तमेतत् ॥

To those who would accept the authority of the Vedas but make an exception[14] in the case of the *Atharvaveda* on the ground that it is outside the pale of the

7. NM., I. 216.
8. *Ibid.*, p. 217.
9. *Ibid.*
10. *Ibid.*, p. 217 f.
11. *Ibid.*, p. 218.
12. NM., I. 218-219.
13. *Ibid.*, p. 220.
14. *Ibid.*, pp. 281 f.; for elaboration on this point see H. G. Narahari, *Indian Culture*, 1940, VI. 369 ff.

Trayī, a group recognised both by *Sruti*[15] and *Smṛti*[16], Jayantabhaṭṭa would point out that their attitude is wholely improper; when Jaimini[17] propounded the infallibility of the Vedas or when both Kaṇāda[18] and Akṣapāda[19] made a similar declaration they meant all the *four* Vedas; the Mīmāṁsakas cannot say that the Atharvaveda is not authoritative because it is of known authorship; nor can the Naiyāyikas hold, in a similar way, that only the *three* Vedas are the pronouncements of an *Āpta*, not the Atharvaveda also.

Further, there are a number of passages[20] in the *Śruti* as well as *Smṛti* which recognise the importance of the Atharvaveda. The TS.[21] refers to the Atharvaveda saying: "*Tvām agne puṣkarād adhy atharvā nir amanthata.*" The ŚB.[22] contains the statement "*So'yam ātharvaṇo vedaḥ.*" And the *Ch. Up.*[23] says that Atharvan is the *fourth* Veda (*ātharvaṇaḥ caturthaḥ*). To the MS.[24] the Atharvaveda is as much a *Śruti* as any of the three other Vedas. When the YS.[25] mentions the fourteen branches of Knowledge (*vidyāsthānāni*), it takes into account *four* Vedas, not merely *three*. The VP.[26] is more explicit when it mentions the four Vedas (*vedāḥ catvāraḥ*) in the course of its enumeration of the varieties of knowledge (*Vidyā*).

Certain traditional writers of eminence like Patañjali and Śabara seem to step aside from the general group which looks upon the Atharvaveda with disfavour; in citing samples from the four Vedas, the former cites[27] first from the Atharvaveda; and Śabara cites often[28] from the *Mauḍaka* and the *Paippalāda* śākhās of the Atharvaveda.

Nor can it be maintained that the AV. teaches not the sacrificial cult that is the main theme of the three other Vedas and that it consequently deserves its divorce from the pale of the *Trayī*. In the performance of sacrificial rites like *Iṣṭi*, *Paśu*, *Ekāha*, *Ahīna* and *satra* the teachings of this Veda have seldom been

15. RV., X.90.9; TB., III.12.9.1; ŚB., X.5.8.1-3; MN., XII. 2.
16. MS., III. 145.
17. MMS., I. 1.5.
18. VS., I. 1.3.
19. NS., II.1.67.
20. For an enumeration of all passages cited by the NM in this connection, see H. G. Narahari, *Indian Culture*, VI. 371 ff.
21. III. 5.11.3a.
22. cited by NM., *loc. cit.*
23. VII.7.
24. XI.33.
25. I.3.
26. III.6. 28.
27. MB., p. 5 (Benares Edn.); Patañjali's partiality to the Atharvaveda is further evidenced by the fact that he cites almost exclusively from this Veda and its ancillary texts. It is a fact that is familiar to Sanskrit grammarians that Pānini favours the Ṛgveda, Kātyāyana, the Yajurveda and Patañjali the Atharvaveda. Patañjali's leaning towards the AV. is sometimes taken to signify that he is an Atharvavedin; if this is true, there is greater reason to regard Jayantabhaṭṭa as an Atharvavedin since his favour to the AV. is, as the present paper shows, quite explicit.
28. On Jaimini, MMS., I. 1. 27; II. 4. 2.

neglected. There is no sacrificial rite that can proceed unless the different shades of opinion found in the different Śākhās are taken into consideration.[29]

It may, however, be argued that the AV. need not be consulted as the *Hotṛ* priest is expected to be proficient in the Ṛgveda, the *Adhvaryu* in the Yajurveda and the *Udgātṛ* in the Sāmaveda when rites like the Soma-sacrifice are performed. But it is necessary to remember that the Brahmā-priest must consult the AV. so that he may be able to perform his duties (*atharvavedena brahmatvasya karaṇāt*)[30] In the GPB [31] it is stated that Prajāpati employed four priests, the *Hotṛ*, knowing the Ṛgveda, the *Adhvaryu*, knowing the Yajurveda, the *Udgātṛ*, knowing the Sāmaveda, and the *Brahman*, knowing the Atharvaveda, when he performed the Soma-sacrifice, and that, if any one of these four priests is omitted the sacrifice will be faulty (*yajño riṣyati*). Elsewhere[32] in the same Brāhmaṇa it is stated that if, in a sacrifice, anything should go wrong, that can be remedied by the Atharvaveda (*yajñe yad ūnaṁ ca viriṣṭaṁ ca yātayāmaṁ ca karoti tad atharvaṇāṁ tejasā āpyāyayati*) and that the Brahmā-priest can do this by virtue of his knowledge of this Veda.[33]

All these practices cannot be dismissed as special to the followers of the AV. with which the followers of the *Trayi-vidyā* have nothing to do. For the *Trayī-vidyā* is nothing more than the *Ṛg*, *Yajus* and *Sāma* put together; and since the AV. contains passages from all these three Vedas, it has the right to be the text of the *Brahman* in a sacrifice. Should it, however, be argued that there is no necessity for a whole the parts of which can subsist separately, the reply is that the AV. is not a mere compilation of the other Vedas, but contains in it the essence of all of them (*trayyāḥ śukraṁ bhavati*)[34] and as such cannot be replaced ; it is for this reason that it is often[35] called the *Brahma-Veda*, the Veda of the *Brahmā-priest.*

As for the claims of the *Atharva* for the name *Veda*, there is enough evidence even in ordinary parlance;[36]when one classifies the Vedic literature into *Saṁhitā* and *Brāhmaṇa*' he understands the AV. also by the first division; also if a man says that he has studied the Atharvaveda among the Vedas, none of his hearers blame him for giving the appellative Veda to the AV. True, the science of medicine (*Āyurveda*) is also called a Veda ; but the subject-matter of the AV. is akin to that contained in the other Saṁhitās and, like any of them, it also treats of *Brahma-yajña* and other *Ś*rauta rites.[37] Yājñavalkya,[38] for instance, says that the brahmin

29. NM., I. 234 ff.
30. *Ibid.*,
31. I. 2.24.
32. cited in NM., p. 235.
33. GPB., pp. 106 ff. (Bibliotheca Indica Edn.).
34. NM., I. 236.
35. GPB, I. 2.16.
36. NM., I. 237.
37. *Ibid.*
38. YS., I. 1.44.

who studies the Atharvāṅgiras satisfies the gods with fat (*medas*) and the manes with honey and clarified butter (*pitṝṁś ca madhusarpibhyām.*)

It is thus evident that, as a work the authority of which is to be acknowledged, as a Vedic text which is useful for self-study (*svādhyāya*) and finally, as an instrument to secure the *summum bonum* of life, the AV. is on a par with any other text in the Vedic canon (*tena pramāṇatāyāṁ vedasvādhyāyaśabdavācyatve puruṣārthasādhanavidhāv api catvāraḥ samā vedāḥ*).[39] If it is necessary to make any distinction among the Vedas, the first place must perforce go the the AV. which contains[40] the great *mantra* with which Brahman performed his primeval *praṇava*. Also, while those initiated according to the AV. are at liberty to study any one of the other Vedas, others, who have not gone through Atharvavedic initiation, have no right to study the AV.[41]

In reality, there is nothing like a private or an exclusive rite of a single Veda, for each single rite is based on the authority of all the branches of the Vedic canon. It is only those who are not afraid of the consequence of scoffing at a Vedic text that would think of making distinctions therein (*pṛthak karaṇaṁ vedanindāprāyaścittanirbhayadhiyām eva cetasi parisphurati*).[42] Four are the branches of the Vedic tree, each one having numerous offshoots, radiant with countless flowers and fruits whose extremely sweet juice is drunk deeply by the eager mouth of the priestly singer[43] :

चतु : स्कन्धोपेत : प्रथितपृथगर्थैरवयवै :
कृतान्योन्यश्लेषैरुपचितवपुर्वेदविऽप : ।

प्रतिस्कन्धं शाखाफलकुसुमसंदर्भसुभगा :
प्रकाशन्ते तस्य द्विजमुखनिपीतोत्तमरसा : ॥

39. NM., I. 237.
40. GPB., I. 2.16.
41. NM., *loc. cit.*
42. NM., I. 239.
43. *Ibid.*

ANANDAVARDHANA'S TREATMENT OF APRASTUTAPRAŚAMSĀ

By

P. K. NARAYANA PILLAI

Ānandavardhana, the author of Dhvanyāloka, claims complete originality in propounding the theory of *dhvani* poetry. He goes to the extent of saying that this type of poetry had never struck any of the ancient rhetoricians.[1] Having put forth such a tremendous claim he proceeds to prove that the *alaṅkāras* or figures of speech noticed by his predecessors like Bhāmaha do not fall under the category of *dhvani*. He admits that the suggested sense is manifest in many of the figures of speech, but he contends at large that since what is suggested in them is only subordinate to what is expressed they cannot possibly be looked upon as instances of *dhvani*. Here it may be recalled that *dhvani* must necessarily satisfy the condition that its sound and expressed sense should subordinate themselves to the suggested sense and serve to bring that sense to light as the most predominant factor.[2] Among the figures of speech Aprastutapraśaṁsā (A.P.) is, perhaps, the most important from the point of view of suggestion. This figure of speech consists, in general, of that technique of poetic art in which the relevant idea is brought out by the description of the irrelevant. So, naturally enough, Ānandavardhana felt it incumbent on his part to establish that Aprastutapraśaṁsā does not belong to the field of *dhvani* and that his claim for originality of the new doctrine stands fully justified. His treatment of the alaṅkāra against this background is reviewed in this paper.

In their conception of A. P. Bhāmaha, Daṇḍin and Udbhaṭa agree fully, and according to them the figure consists of the praising of the irrelevant in order to condemn the relevant.[3] The relevant, of course, is not expressed but suggested by the irrelevant. Bhāmaha gives the following illustration :

प्रीणितप्रणयि स्वादु काले परिणतं बहु
विना पुरुषकारेण फलं पश्यत शाखिनाम्[4] ॥

1. अणीयसीभिरपि चिरन्तनकाव्यलक्षणविधायिनां बुद्धिभिरनुन्मीलितपूर्वम् ॥ Dhvanyāloka, Kasi Sanskrit Series No. 135, p. 35.
2. See the clause उपसर्जनीकृतस्वार्थौ in Kārikā 1.13 which defines *dhvani*.
3. अधिकारादपेतस्य वस्तुनोऽन्यस्य या स्तुति: ।
   अप्रस्तुतप्रशंसेति सा चेदं कथ्यते यथा : ॥ Kāvyālaṅkāra 3.29.
   अप्रस्तुतप्रशंसा स्यादप्रक्रान्तेषु या स्तुति: । Kāvyādarśa 2.340.
   अधिकारादपेतस्य वस्तुनोऽन्यस्य या स्तुति: ।
   अप्रस्तुतप्रशंसेयं प्रस्तुतार्थानुबन्धिनी ॥ Kāvyālaṅkārasaṁgraha 5.-8
4. Kāvyāiaṅkāra 3-30.

The trees are said to possess fruits 'which are pleasant to those that take to them, sweet, ripe at the proper season, abundant and produced without human endeavour, Here the trees which are but inanimate, are praised to condemn men who do utterly disappoint those who seek help at their hands.[5] Daṇḍin illustrates the figure by praising the happy, contented and independent life of the deer in the forest and thereby indirectly condemning the miserable, discontented and servile life of those parasites who live upon the mercy of their patrons. The stanza runs :

सुखं जीवन्ति हरिणा वनेष्वपरसेविन : ।
अन्नैरयत्नसुलभैस्तृणदर्भाङ्कुरादिभि:। ।[6]

Udbhaṭa adopts Bhāmaha's definition and his commentator Pratīhārendurāja provides the following illustration :

यान्ति स्वदेहेषु जरामसंप्राप्तोपभोक्तृका : ।
फ़लपुष्पर्द्धिभाजोऽपि दुर्गदेशवनश्रिय : ॥[7]

Vāmana's conception of A. P. differs considerably from that of the earlier rhetoricians. He recognises the figure in poetry where only a little expression is given to the subject in hand.[8] The following stanza is cited as illustration :

लावण्यसिन्धुरपरैव हि काचनेयं
यत्रोत्पलानि शशिना सह संप्लवन्ते ।
उन्मज्जति द्विरदकुम्भतटी च यत्र
यत्रापरे कदलिकाण्डमृणालदण्डा: ॥

This is an appreciative description of a heroine of great personal charm by a lover, mostly in an indirect manner. Here the different parts of her body are referred to only by respective standards of comparison. According to the commentary *Kāvyālaṅkārakāmadhenu* the direct mention of her beauty by the word *lāvaṇya* gives partial expression to her eyes, face, breast, thighs and hands.[9] It may be pointed out here that the words *kācaneyam* also make a direct reference to the person of the heroine who is being described.

In his *vṛtti* on the *sūtra* defining A. P. Vāmana says that the characteristic of the figure is the praising of the irrelevant object.[10] This obviously is not quite

5. According to Pratīhārendurāja the description of the trees brings out the general fact that " things come into being without human effort because of the divine will ". But this could not be the meaning in which Bhāmaha understood the stanza.
6. Kāvyādarśa 2.341.
7. See the Laghuvṛtti on Udbhaṭa's definition of Aprastutapraśaṁsā.
8. किञ्चितदुक्तावप्रस्तुतप्रशंसा Kāvyālaṅkārasūtra 4.3.10.4.
9. अत्र लावण्यपदार्थेनैकदेशेनोपमेयानां नयनादीनामुक्तौ ।
Gopendratripuraharabhūpala's Kāvyālaṅkārakāmadhenu on Kāvyālaṅkārasūtra 4.3.10,4,
10. अप्रस्तुतस्यार्थस्य प्रशंसनमप्रस्तुतप्रशंसा Vāmana's Vṛtti, 4.3.10.4,

consistent with his own definition and illustration.[11] So it may be presumed that in his *vṛtti* Vāmana only makes a mention of the view of the earlier rhetoricians regarding A. P.

At Rudraṭa's hands A. P. underwent much change. He renamed it as *anyokti*[12] and enlarged its scope considerably. From the limited scope of praising the irrelevant for the sake of condemning the relevant, the figure of speech got its scope enlarged to the suggestion of the relevant by the irrelevant due to similarity between them.[13] The figure in this wider significance is illustrated by the following stanza :

मुक्त्वा सलीलहंसं विकसितकमलोज्ज्वलं सरः सरसम् ।
बकलुलितजलं पल्वलमभिलषसि सखे न हंसोऽसि ॥

In this stanza a person who leaves good men and keeps company with bad men is dubbed ignoble. This is comprehended by the suggestion occasioned by the similarity between a bird looking like a swan, which goes to a pool of muddy water in preference to a lake with swans and fully blossomed lotus flowers, and an ignoble person who abandons the company of good people and chooses to live with bad people in disreputable quarters.

The history of A. P. as traced above reveals that the figure was conceived in three different ways by the rhetoricians who preceded Ānandavardhana. Ānandvardhana agrees with Rudraṭa and describes it as involving "the relation between the irrelevant that is expressed and the relevant that is suggested."[14] While the earlier authors do not classify the *alaṅkāra*, he classifies it into five viz. (1.-2) that in which the irrelevant is general and the relevant is particular and *vice versa*; (3 - 4) that in which the irrelevant is a cause and the relevent an effect and *vice versa*; and (5) that in which the relevant and irrelevant are similar in form.[15] It may be noted here that Ānandavardhana does not illustrate any of these divisions.

Now I shall examine Ānandavardhana's view that A. P. is not *dhvani*. It must be conceded that according to his definition of *dhvani* as poetry in which the suggested sense predominates, A. P. as conceived by Vāmana cannot be reckoned as *dhvani*. Vāmana allows the relevant to be slightly expressed in A. P. This does not agree with the conception of *dhvani* in which the relevant is to

11. The statement उत्पलादीनां अप्रस्तुतानां प्रशंसनात् in the Kāvyālaṅkārakāmadhenu is not quite understandable.
12. Rudraṭa changed the names of a few other *alaṅkāras* also. See History of Sanskrit Literature, p. 538, edited by S. N. DASGUPTA.
13. असमानविशेषणमपि यत्र समानेतिवृत्तमुपमेयम् ।
उक्तेन गम्यते परमुपमानेनेति सान्योक्तिः ॥ Kāvyālaṅkāra, Kāvyamālā No. 2. p. 114.
14. अभिधीयमानस्याप्रस्तुतस्य प्रतीयमानेन प्रस्तुतेनाभिसम्बन्धः । Dhvanyāloka, p. 125.
15. *ibid.*
This classification is adopted by Ruyyaka in his Alaṅkārasūtra,
अप्रस्तुतात् सामान्यविशेषभावे, कार्यकारणभावे, सारूप्ये च प्रस्तुतप्रतीतौ अप्रस्तुतप्रशंसा ।
See Sutra 84.

be entirely suggested and not expressed at all. In fact the stanza *lāvaṇyasindhura-paraiva* etc., cited by Vāmana to illustrate A. P. is cited by Ānandavardhana as an instance of *guṇibhūtavyaṅgya*[16]. According to him the primary sense of the heroine is expressed in the stanza and the suggestion of the graceful parts of her body does only serve to augment the beauty of what is expressed. Thus it is clear that A. P. as conceived by Vāmana has no claim to be called *dhvani*. But the *alaṅkāra* as conceived by Bhāmaha, Daṇḍin, Udbhaṭa and Rudraṭa fully satisfies the conditions of *dhvani*. The earlier conception as praising the irrelevant in order to condemn the relevant even though limited in character, is quite consistent with the definition of *dhvani*. The condemnation of misers and that of servile people in a suggestive manner without the least use of expression are certainly instances of *dhvani*, as the beauty mainly consists in suggesting what the poet proposes to bring to light. In the same manner the suggestion of the relevant by the description of similar irrelevant objects such as the wild beauty, a bird looking like a swan etc. also could easily be considered as *dhvani*.

After classifying A. P. Ānandavardhana proceeds to establish that none of the five categories, with the possible exception of the last under certain conditions, deserves to be reckoned as *dhvani*. He argues that the general or the particular which is expressed is as important as a particular or the general that is suggested due to their inseparability. The same logic is pressed into service to show that the expressed and the suggested have equal importance when they stand in the relation of cause and effect and vice versa.[17] Therefore these divisions of A. P. cannot be considered as *dhvani* in which the expressed sense should be subordinated to the suggested. This reasoning is thoroughly unconvincing as inseparablity between two things does not confer on them equality of importance. For instance, the full moon and the black spot in it are inseparable, but we never feel that the latter is as important as the former. One or two instances of A. P. where the expressed and the suggested stand in the relation of general and particular, and cause and effect may be examined here. The following are the words of Balabhadra addressed to Kṛṣṇa and Uddhava in a discussion to decide whether war should immediately be declared against Śiśupāla or they should attend the *Rājasūya* sacrifice that is being performed by Yudhiṣṭhira.

अङ्काधिरोपितमृगश्चन्द्रमा मृगलाञ्छन : ।
केसरी निष्ठुरक्षिप्तमृगयूथो मृगाधिप : ॥[18]

In this stanza the direct mention of the particular fact that the lion which destroys the deer is hailed as the king of animals while the moon that fondles a deer in its lap is dubbed as *mṛgalāñchana* suggests the general fact that only those who are stern and prompt fighters will be successful in life. This further suggests

16. See Dhvanyāloka, p. 459.
17. *ibid.* pp. 125-26.
18. Śiśupālavadha 2.53.

that they must immediately declare war against Śiśupāla. In this context no *sahṛdaya* would adjudge that the affairs of the lion, the moon and the deer that are expressed are as important as the exhortation for declaring war which is suggested.

Another illustration in which the relation of cause and effect exists between the expressed and the suggested may be cited.

हृतसारमिवेन्दुमण्डलं दमयन्तीवदनाय वेधसा ।
कृतमध्यविलं विलोक्यते धृतगम्भीरखनीखनीलिम ॥[19]

In this stanza describing the beauty of Damayantī, the fact that the essence of the moon has been extracted by Brahmā to create the heroine's face and her excessive charm which is suggested, stand in the relation of cause and effect. No literary connoisseur will possibly say that here the cause is as important as the effect.

Regarding the last division of the *alaṅkāra* which is based on the similarity between the expressed and the suggested, Ānandavardhana says that all instances in which the irrelevant (expressed) is not intended as of primary importance could be admitted into the realm of dhvani.[20] One would wonder how the irrelevant sense could ever be meant as of supreme importance when the poet endeavours to suggest through it the relevant sense! Therefore the A. P. which involves the similarity between the relevant and the irrelevant will invariably be an instance of *dhvani*. The above review proves that the A. P. as conceived and classified by Ānandavardhana satisfies all the conditions of *vastudhvani* and that his efforts to establish that the figure of speech is not *dhvani* have borne little fruit. He could have straight away welcomed it into the fold of *dhvani* and pointed out that even though it was an instance of *vastudhvani* the earlier *alaṅkārikas* had not recognised it as such since they were in the dark regarding the theory of suggestion.

Ānandavardhana deals with the *alaṅkāra* incidentally in another context. He gives a warning to the critics that *dhvani*, *guṇībhūtavyaṅgya* and *alaṅkāra* should be very carefully distinguished. Otherwise confusion would arise even in the case of well-known figures of speech.[21] To illustrate the point he quotes the following stanza:

लावण्यद्रविणव्ययो न गणितः क्लेशो महान् स्वीकृत :
स्वच्छन्दस्य सुखं जनस्य वसत : चिन्तानलो दीपित : ।
एषापि स्वयमेव तुल्यरमणाभावाद्वराकी हता
कोऽर्थश्चेतसि वेधसा विनिहितस्तन्व्यास्तनुं तन्वता ॥

19. Naiṣadhīyacarita. 2.25.
20. यदा तु सारूप्यमात्रवशेन अप्रस्तुतप्रशंसायां अप्रकृतप्रकृतयो :सम्बन्धस्तदाप्यस्याभिधीयमानस्य प्राधान्येनाविवक्षायां ध्वनावेवान्त:पात : । Dhvanyāloka, p. 128.
21. वाच्यव्यङ्ग्ययो : प्राधान्याप्राधान्यविवेके पर : प्रयत्नो विधातव्य : येन ध्वनिगुणीभूतव्यङ्ग्य-योरलङ्काराणां च असङ्कीर्णो विषय : सुज्ञातो भवति । Dhvanyāloka, p. 486.

A certain critic has pointed out that this is an instance of the figure of speech called *vyājastuti* or veiled praise. The creator is said to have had no definite purpose in view in the creation of the heroine and this apparently looks to be a censure against him. But the facts on which this censure is made do bring out the excessive charm of the lady and hence the whole thing ultimately proves to be in praise of the creator. Ānandavardhana does not agree with this view and according to him the figure of speech in this stanza is A. P. He argues as follows : If this stanza expresses an appreciation of the beauty of a lady, the speaker might be either a lover or an indifferent person. The former is impossible as no lover will admit that there is none including himself who is a suitable match to the lady. The latter too is impossible as a disinterested person would only be keen to avoid such thoughts and words. Therefore it is clear that the stanza is not to be understood in its direct and expressed sense. Had the source of the stanza been known that would have been of considerable help in interpreting it with reference to its particular context. But unfortunately it is lost in oblivion. So Ānandavardhana felt the necessity to adopt other methods of criticism in unravelling the poet's mind with exactitude, and his critical genius, perhaps for the first time in the history of literary criticism, opened the vista of comparative criticism in literature. With his insight into indirect speech he discovered that the stanza deals with the affliction of " a person who is puffed up with the pride of matchless merits in himself, who has brought fever upon jealous rivals by the excess of greatness achieved by him and who cannot find a single critic of sound judgement who can appreciate him fully".[22] Guided by the hearsay that the author of the stanza is Dharmakīrti, Ānandavardhana critically examined his works with the sole purpose of finding out whether there was any parallel thought therein which will confirm his interpretation of the stanza. He succeeded in discovering quite a similar stanza giving expression to the very same sentiments and thoughts palinly and directly. The following is the stanza.

अनध्यवसितावगाहनमनल्पधीशक्तिना-
प्यदृष्टपरमार्थतत्त्वमधिकाभियोगैरपि ।
मतं मम जगत्यलब्धसदृशप्रतिग्राहकं
प्रयास्यति पयोनिधेः पय इव स्वदेहे जराम् ॥

In this verse Dharmakīrti has clearly stated that his philosophy is too deep and scholarly to be appreciated by others. The pride and haughtiness regarding one's own achievements are clearly reflected in both the stanzas, the only difference being that in one they are suggested and in the other they are expressed. Thus finding out a parallel passage from Dharmakīrti's other contributions Ānandavardhana confirms his interpretation of the stanza *lāvaṇyadraviṇavyayo na gaṇitaḥ* etc., taking it as an instance of A. P. This is perhaps the earliest extant specimen of comparative literary criticism.

22. Dr. K. Krishnamoorthy, Translation of Dhvanyāloka, p. 124.

THE TIME AND SEASON OF THE XIIIth CANTO OF THE RAGHUVAMŚA

By

A. G. MANGRULKER

SYNOPSIS

The problem of *the time and season of the XIIIth Canto of the Raghuvaṁśa* is interesting and significant from the point of view of oneness of vision that Kālidāsa is attempting to achieve. From the various explicit and implicit references in this Canto it is possible to show that the season suggested by the poet appears to be the early part of autumn or the end of the rainy season. The references to stray clouds, the *ketakas* in flowers, the betel-nut trees bent down under the load of the clusters of their fruit, the white lotuses, the swans returning from the Mānasa lake indicate that the rainy season had just ended.

The implications of various similes, which are as significant, substantiate the same conclusion.

The sequence and duration of time also deserve notice. It is possible to show from various unmistakable references that Rāma and Sītā started from Laṅkā at about 6 a.m., went over Pañcavaṭī at about 11 a.m.; reached the hermitage of Sutīkṣna at 1 or 2 p.m. and touched the ground on the banks of Sarayū at about 6 p.m. in the evening. The duration of time taken for reaching Ayodhyā is, therefore, roughly twelve hours.

INTRODUCTION

The main subject of the XIIIth Canto of the *Raghuvaṁśa* is the aerial journey of Rāmacandra and Sītā from Laṅkā to Ayodhyā. The fleeting panoramic views of the region below, the sad yet affectionate visions of the past that are conjured up by the reminiscences of Rāma, the delicate suggestion of Rāma's love towards Sītā which is the undercurrent of the Canto and wheih sets off the subsequent tragic incidents of their life in an ironically artistic way, are only some of the artistic and emotional excellences of this XIIIth Canto. The fascination that Kālidāsa has for the depiction of earthly scenes seen from the air is patent and well-known to the readers of the Meghadūta and Śākuntala. It seems to feed his fancy, tickle his imagination and nourish his poetic vision. His unqualified success in depicting all such panoramic scenes speaks voluminously for his technical skill in this regard and minuteness of observation.

What, however, enthrals the reader is the unique *oneness* of poetic vision and the synthetic presentation of the entire subject of the XIIIth Canto without unduly emphasizing any one part of the artistic work by holding all that is subordinate in a beautiful poise. Never for a moment does the poet forget that the scene relates to an air-travel and that such a travel naturally presumes kaleidoscopic changes for the sight. The effect of the oneness of vision has been achieved not

only by the emotional and poetical excellences of the subject but also by *the element of time and season that permeates this Canto.* Even the similes of Rāma seem to have been inspired by his mental reaction after seeing the varied seasonal and scenic beauties. Just as the sombre atmosphere of the rainy season has given to the *Meghadūta* a wistful charm which is all its own, the *element of time and season* has enhanced the loveliness of this Canto besides imparting to it the oneness of vision.

The Season

The season suggested by Kālidāsa in this Canto appears to be the early part of autumn or the end of the rainy season. The poet has elsewhere (Canto IV) described the season of autumn boldly and picturesquely; but such a bold description would have made the subject of this Canto rather obtuse and would have detracted, not a little, from its delicacy. The poet, therefore, rests content by only suggesting *the season and the duration of time* taken for reaching the destination.

At such a joining time of two seasons, it is familiar how the gradually vanishing effects of the preceding season linger on and how the new atmosphere of the succeeding season is yet to set in full swing. At the end of the rainy season, therefore, an occasional shower or a chance cloud in the sky is neither a rare experience nor a strange sight. That Sītā, therefore, touches a cloud as she merrily puts her hand out of the window of the Puṣpaka 'plane is in perfect accord with *this time* of the season. It is also noteworthy to see how the poet here refers to a *watery cloud lined with a streak of lightning*, and not to an empty woolly cloud of the autumn divested of it. (*cf.* करेण वातायनलम्बितेन स्पृष्टस्त्वया ... । रघु. XIII. 21). The Poet in this very connection mentions how the Puṣpaka 'plane occasionally goes by the path of the clouds. (*cf.* क्वचित् पथा संचरते सुराणां **क्वचिद् घनानां**... । रघु. XIII. 19). The Citrakūṭa mountain, too, has been described as giving forth echoes of the ceaseless roar of the gushing mountain-streams and as having a dark cloud resting on its peak like a lump of mud. (*cf.* धारास्वनोद्गारिदरीमुखोऽसौ शृङ्गाग्रलग्नाम्बुदवप्रपङ्कः । ... रघु. XIII. 47). All this undoubtedly indicates the end of the rainy season, or the beginning of the month of Āśvina.

When the southern sea is crossed, Rāma enjoys a breeze from the sea and observes that the breeze was wafting the pollen of the *Ketaka* plants for the decoration of Sītā's face. (*cf.* वेलानिलः केतकरेणुभिस्ते संभावयत्याननमायताक्षि । ... रघु. XIII. 16). It it well to remember here that the *Ketaka-reṇus* would be wafted by the wind only when the *Ketakas* would attain maturity; and that the *Ketakas* begin to be in flowers from the end of the Bhādrapada. Just when the sea is crossed, Rāma describes the southern shore of India as having been lined with rows and groves of *tamāla* and *tāla* trees. The reference to the rows of *pūga* or betel-nut trees in this connection is seasonally very singnificant. The *pūga* trees are described as having bent down under the load of clusters of their opulent fruit.

(*cf.* कूलं फलावर्जितपूगमालम् । रघु. XIII. 17). The fruit of the *pūga* trees make their appearance in the middle of the month of the Bhādrapada; but they ripen towards the end of Āśvina, which marks, again, the end of the rainy season.

The description of the confluence of the Gaṅgā and Yamunā will also give intresting details if the attending similes are closely examined. The white waters of the Gaṅgā mingled with the dark ones of the Yamunā are aptly compared with the range of the white autumnal clouds lending an occasional glimpse of the azure sky. Looking to the psychological working of the mind, it is very probable that Rāma hit upon *this* particular simile because below him was being seen the grand confluence of the Gaṅgā and Yamunā and above him stretched the vast, blue autumnal sky punctuated with some gliding, white clouds. (*cf.* अन्यत्र शुभ्रा शरदभ्रलेखा रन्ध्रेष्विवालक्ष्यनभःप्रदेशा । ... रघु. XIII. 56). Two more similes given in connection with this confluence deserve notice. They refer to white lotuses (*cf.* सितपङ्कजानां माला । रघु. XIII. 54) and the swans (प्रियमानसानां खगानाम् । रघु. XIII. 15). That the advent of the autumn is marked by white lotuses and by swans returning from the Mānasa lake is well-known and has been described by the poet himself on other occasions (Cf. *Raghu.* Canto IV, and *Megha.*).

It may be that certain similes are either inspired by the seasonal sights that Rāma sees, or are used by the poet to indicate the season, suggesting the end of rains. When, for instance, Rāma gets into the aeroplane, the poet compares him with the moon getting on a mass of clouds streaked with flashes of lightning. (*cf.* तारापतिस्तरलविद्युदिवाभ्रवृन्दम् । रघु. XIII. 76). The simile, in all probability, suggests the advent of autumn. But there is yet a more explicit reference to the end of the rainy season (वर्षात्यय) in the simile of the next verse (*cf.* वर्षात्ययेन रुचमभ्रघनादिवेन्दोः । रघु. XIII. 77). Again, as the Puṣpaka 'plane approaches Pañcavaṭi, Rāma sees the hermitage of Agastya, whom he describes as आविलाम्भः-परिशुद्धिहेतु। रघु. XIII. 36). The adjective is significant, as all Kālidāsian adjectives are, since the rise of the star of Agastya coincides with the limpidity of waters (Cf. *Raghu* IV. 21 ; cf. the remark of Mallinātha on XIII. 36). This is the reason why Mandākinī has been described as (प्रसन्नस्तिमितप्रवाहा XIII. 48), which is a typically autumnal sight of a river.

The season of the Canto can be inferred from one more point. We get here references to the clouds in the sky, but none to the showers. Besides, when Bharata comes to greet Rāma, Rāma sees the dust rising on high in front of him from the ground. (*Cf.* विरक्तसन्ध्याकपिशं पुरस्ताद् यतो रजः । रघु. XIII. 64). Had it been the rainy season, no dust would have been thrown up (Cf. IV. 29).

THE TIME

The time element in this Canto is also so carefully kept up by the poet that though he does not specifically mention the precise time, never does he fail to

maintain the *sequence of time.* Rāma and Sītā must have started from Laṅkā in the early morning. The grand simile occurring in the very opening verse of Rāma, who compares the सेतु with the milky way, the calm, unruffled ocean with the blue, extensive sky and the sparkling water with the twinkling stars, shows that the previous night was clear, and that the last watch of the night was especially so. When Rāma crosses the sea and reaches the Indian shore he sees the jewels on the hoods of the snakes reflecting the rays of the sun. (*Cf.* वेलानिलाय प्रसृता भुजङ्गा...। रघु. XIII. 12). The morning sea breezes are blowing and we have the reference to वेलानिल two times (XII 12, 16), The time for serpents to bask in the sun's rays is, again, morning, before it is very hot. This shows that the time when Rāma and Sītā reached the Indian shore was between 7 and 8 a. m. As they proceed, the sun becomes hotter. The mention of drops of perspiration having gathered on Sītā's face due to the tropical heat of the day leaves little doubt that it was about 9 to 10 a. m. (*cf.* आकाशवायुर्दिनयौवनोत्थानाचामति स्वेदलवान् मुखे ते। रघु. XIII. 20). By the time they reached the hermitage of Sutīkṣṇa, after going over Pañcavaṭī, the heat of the sun became scorching. (*cf.* हविर्भुजामेधवतां चतुर्णां मध्यं ललाटंतपसप्तसप्तिः। रघु. XIII 41). The expression 'ललाटंतपसप्तसप्तिः' and the epithet 'सहस्रार्चिस्' are, therefore, highly significant as indicative of definite time of the day. The time was between 1 and 2 p.m. After mid-day the wind sometimes falls, the atmosphere becomes still, and even the rustling of the leaves is absent. In such a still, dead atmosphere of the day Rāma appropriately fancies trees to be practising Yogic austerities, as it were. (*cf.* निवातनिष्कम्पतया विभान्ति। रघु. XIII. 52). By the time they come to the banks of the Sarayū, it is late afternoon, the time being about 6 o'clock. The cool evening breezes, causing ripples on the river, begin to blow. (*cf.* शिशिरानिलैर्मां तरङ्गहस्तैरुपगूहतीव। रघु. XIII. 63). The sky must have been tinted reddish-brown by the approaching evening. The adjective 'विरक्तसन्ध्याकपिशम्' applied to the rising dust is, therefore, very meaningful in this connection. The dust raised by the marching armies of Bharata may have been red *like* the evening light or, may be, it was *reddened* by the evening light of the sun. That it was evening is, however, clear.

We thus see that when Rāma crossed the sea it was the beginning of the day; as he reached Pañcavaṭī, it was about 11 a. m. Nearly half-way between the Sarayū and Pañcavaṭī, i.e. at the *āśrama* of Sutīkṣṇa, it was about 1 or 2 p.m. and on the banks of Sarayū it was evening, as is indicated by the cool breezes and the evening light. That is, from Pañcavaṭī to the Sarayū the aeroplane took six or seven hours to travel.

Judging from the respective distance, Rāma must have travelled at least 4 or 5 hours before he reached Pañcavaṭī. That is to say, he must have started at about 6 o'clock in the morning. As the autumnal day is short and the sun rises

late on the horizon, there might have been some stars left in the sky when Rāma started from Laṅkā ; and by the time he touched the ground some stars might have risen in the sky. This explains the simile of the milky way and also significantly accounts for the expression 'ज्योतिष्पथ' meaning 'the sky' (*cf.* ज्योतिष्पथादवततार । रघु. XIII. 68).

Thus the explicit and implicit references as well as the suggestions implied in various similes — which are as important and significant — indicate that the season of the XIIIth canto must have been the end of the *varṣā*, the duration of time ranging from about 6 a. m. to 6 p. m. on the day the air-journey was made.

OLD MARATHI AVASVARA AND VEDIC AVA√SVṚ

By

M. G. Panse

Occurrences of the word *avasvara* in Mss. of old Marathi works are quite frequent. Almost always *avasvara* stands for *avasara* meaning 'time, occasion, opportunity' etc. High frequency of such occurrences has resulted in its being treated as a common scribal error and the "intrusion" of -*v*- is silently and sometimes unconsciously skipped over. Critical editions also have taken *avasvara* to mean the same as *avasara*, at some places one finds the reading *avasara* in the constituted texts and the variant *avasara* in footnotes but at others just the reverse of this.

Marathi dictionaries do not help us. The difference in meanings of these two words *avasara* and *avasvara* which remained hidden from us so far will be clear on closer interpretation and explanation of a few stanzas from conscientiously edited *Rukmiṇī Svayaṁvara* of Narendra[1]—a well-known Mahānubhāva poet. The date of its composition is Śaka 1214 (= A. D. 1292).[2] *Rukmiṇī Svayaṁvara* of Narendra is one of the seven important poetic compositions of the Mahānubhāva literature.[3]

For *avasvara* = *avasara* one should read the following verses :-

(1) " *te rūpasa bhīmakī : avasvarīṁ kavhaṇīṁ yekī*
sabhe yetāya kavatikīṁ : bhīmasenāṁ javaḷī //77//"

'On a certain occasion that beautiful daughter of Bhīmaka (i. e. Rukmiṇī) comes fondly near Bhīmasena in the assembly (-hall).'

(2) " *to rāṇiva karī samudrācāṁ goṭīṁ : puna ājñā vase amarāṁcāṁ mukuṭīṁ*
devācā avasvarū na lhāti bheṭī : brahmādika //299//

'He (Kṛṣṇa) rules the border region of the sea (i. e. Dwārakā) but his command is borne on their crowns by the gods. Brahmā and others do not (easily) get an opportunity to meet the Lord (Kṛṣṇa).'

A number of such illustrations may be cited from the Ms-texts of *Uddhavagītā*, *Jñāneśvarī*, *Jyotiṣaratnamālā* of Śrīpati etc. but there is a peculiar use of this

1. Critically edited by V. B. Kolte, Aruna Prakashan, Malkapur, 1940.
2. *Ibid.*, pp. 13-17.
3. 1. *Rukmiṇī Svayaṁvara*, 2. *Śiśupāla Vadha*, 3. *Uddhavagītā*, 4. *Vaccha haraṇa*, 5. *Jñānaprabodha*, 6. *Ṛddhipura-varṇana* and 7. *Sahyādri Varṇana.*

avasvara in one Ms. (*Ka*) of DHAVALE[4] composed by Mahadaṁbā otherwise known as Mahadāisā.

A Brahmin—a messenger of Rukmiṇi—comes to Śrīkṛṣṇa to explain the situation of the svayaṁvara of Rukmiṇī, on hearing of which Śrīkṛṣṇa immediately accompanied the Brahmin to Kauṇḍinyapura to attend the ceremony. Kṛṣṇa asks the Brahmin :

"......*tumhīṁ āleti tevheḷiṁ rukhamīṇīdevīsī kaisā avasvaru*" "When you came (started to come) how was Rukmiṇī?' To this the Brahmin replies that she had high fever and was quite miserable.[5] From this reply it seems that here *avasvara* is intended to mean—'condition' mental and physical both, but in fact it is the same thing as *avasara* 'occasion or situation' and Kṛṣṇa's sentence may be translated as ' how was this occasion (or rather situation) for Rukmiṇī i. e. what was Rukmiṇī's reaction to the situation namely Bhīmaka's choice of Śiśupāla when Rukmiṇī was in love with Kṛṣṇa.

Avasvara has a totally different sense in some verses of *Rukmiṇī Svayaṁvara* There it means 'subsiding tone, musical sound, musical skill.'

Bhīmaka, the father of Rukmiṇī, desirous of finding a match for her, inquire of the bard about kings to be able to make a suitable choice. In response Veda ghoṣa sings various musical compositions in a variety of rāgas describing differen kings.[6] Vedaghoṣa is presented in the form of a Kiṁnara here.[7]

Before coming to the Yādavas the Kiṁnara sings about the Southern Kings in the rāga Rāmagri.[8] Between the description of the Southern Kings and the narration about the western kings sung in the rāga Gujarī there is the verse :

"*kaisā rāhāvalā avasvarū : tavaṁ gujariye rūpa karī khecarū*
maga mhaṇe "*pariyesaiṁ kṣetri-bhārū : paścimecāṁ* //273//

'No sooner did the (final) tone (of Rāmagrī) subside than the sky-rover (Kiṁnara) began to describe in the Gujarī rāga and said, "Listen about the group of Kṣatriyas (= kings) of the west."

4. Edited by Vaman Narayan DESHPANDE, *Ādya Marāṭhī Kavayitrī*, Sharadashrama Puraskrit Grantha Mala, 9 Yavatmal, 1935.

5. *taṁva vīpra evaṁ bole tumacīye avastecī tiye āṁgīṁ tapata ase jvaru : hātīcī pānem palavā jālīṁ kāpureṁ vīḍā detā nīgālā jvāḷu : aisī te ˀīnavadanā houni ṭhelī bālā :* //

6. *Bhīmeṁ bhūpāḷa pusileṁ māgadhāteṁ : te vedaghoṣu sāṁghaila rāgatveṁ*
to vovī-prabaṁdhu āikatu śrote : mhaṇe narīṁdṛ //188//

7. The sage Vedaghoṣa was transformed into a kiṁnara with a curse of Rambhā-the apsaras, who once proposed him to enjoy the pleasures of sex with her but he did not comply with the request. When Vedaghoṣa sought an *uśśāpa* Rambhā told him that he would resume his original form when Rukmini would marry Śrīkṛṣṇa. For the Marathi text of this episode see KOLTE edition of *Rukmiṇi Svayaṁvara*, p. 208.

8. *rāmagriyecī dāuni āsa : mhane* " *Vaidarbha-rāyā ! pariyasa*// *dakṣaṇa-diśice pradeśa : kṣetrī tethice* //255 //

Prof. G. H. RANADE—a well known scholar of Indian music tells me that Ramagrī Rāmakrī, Rāmakṛtī and Rāmakalī are the names of the same rāga.

The kiṁnara then comes to the Yādavas, and particularly to Śrīkṛṣṇa. On his concluding the song about kṛṣṇa's greatness the verse runs :

" *aisā karitāṁ avasvarū : rasaraṁgeṁ dhālā gaganasarovarū*
maga rūpa karitāya khecarū : nāṭeṁ caturvidheṁ" //319//

' As (the song) was brought to an end like this, lake in the form of the sky was full of water in the form of sentiment (i.e. the atmosphere was surcharged with the charm of sentiment.) Then the sky-rover (Kiṁnara) proceeds to describe (handsome ness of kṛṣṇa) in the accompaniment of fourfold (?) dance.'

After listening to all the rāgas in which the Kiṁnara sang to introduce different kings on the earth (India) Bhīmaka appreciates the performance of the Kiṁnara in the following words :

"......*sughaḍapanācā navalāvō : nāikīje tihīṁ lokīṁ* //345//

śruti-svara-grāmajāti-gamaka : yakekisīṁ upajeti anneka
jaiseṁ ālavasāvaṁtaka (?) *saśāṁka : garūḍīṁ saṁdhyārāgāciye* //346//

navala rāga-raṁgācī vinī : āṇīci raṁgīṁ rasācī jiṇīṁ
vegaḷīci rasīṁ mādhau-ryācī akṣoṇīṁ : anupamya he //347//

sādhu satya lokāṁ pāsuni dise : subheda gāteṁ āṁga kaiseṁ
rasaraṁgeṁ brahma-kaṭāho hotuse : sapota kuṁkumācā //348//

avasvarū saralā kīnnara-nāyakā : kaisī sthānī ṭhakalī āikā
jaisi kāṁ devasabhā ālī yā lokā : pāyārī gaganācāṁ" //349//

The last verse which is of interest to us means ' Listen ! when (the final) subsiding tone of the lord of kiṁnara's (song) died out how the hearers have been stuck motionless to their places; the divine audience has come to the earth, as it were, down the steps of the sky '. The words included in this passage e.g. *Śruti* (imperceptible tone-interval), *svara* (tone), *grāma* (a group of tones), *gamaka* (vibration of tone), *jāti* (type of a rāga like *oḍava, ṣāḍava, saṁpurṇa*), *upajaṇeṁ* (*cf. upaja* ' creation ' or better a variety of creation in any particular musical composition), *āṁga* of a rāga etc. are well known as technical terms to a student of Indian music. It is obvious that in this passage *avasvara* has some connection with the above mentioned terms as also the expressions like *rāgaraṁgācī vinī, rasa-raṁga, subheda, gāteṁ āṁga* etc. But it must be admitted that *avasvara* having the meanings pointed out already is not to be heard in the world of musicians when a similar word like *avaroha* is quite common. *Avasvara* is not to be found in any work on Indian music according to some experts in that field. This term, therefore, was never admitted as technical one in the science of music.

' Musical skill ' as an extended meaning of *avasvara* is found in two verses e.g.

I. *Khecarācā dekhauni avasvarū : sthānīṁ vismo jālā thorū*
maga bolilā vaidarbheśvarū : pradhāneṁsīṁ // 361 //

'Having observed the musical skill of the Kiṁnara there prevailed great wonder at the place. The lord of Vidarbha then said to his minister'.

II. *āikaiṁ uttare mānasarovaru : tethicā rāvo gītasaṁkaru*
jayācā na lhāti avasvarū : baṭakī gaṁdharvāṁciyā // 213 //

'Listen! to the north (there is the region of) mānasarovara the king of which is Gītasaṁkara whose musical skill cannot be attained even by the Apsaras'.

According to the commentator *baṭakī* = *kanyā* hence *gaṁdharva kanyā* = *Apsaras*. The name of the king appears to be imaginary and there is no means to ascertain whether he was really a musician as this name indicates.

One who is inclined to interpret *avasvara* in the above citations as *avasara* may note that this word invariably occurs in relation with a musician, mostly the Kiṁnara but in stz. 213 with Gītasaṁkara and Apsaras and that it is generally employed at the end of a song. Moreover, King Bhīmaka is anxious to hear descriptions of different kings on the earth in order to choose a match for his dear daughter and naturally he would be interested in as many details as possible of every king. In such a situation when Bhīmaka himself asks the Kiṁnara to tell him about the kings[9] it is unlikely that he should allot specific time for describing kings in the East or West etc. so that Kiṁnara must stop his song when this time for it was over.

Tracing back the history of *avasvara* 'tone, sound' etc. one finds that no Pali or Prakrit dictionary records a tadbhava form of *avasvara* which seems to be missing in classical Sanskrit as well. Though we do not find the substantive in Sanskrit lexicons the root *ava*√*svṛ* from which *avasvara* is to be derived has its place there. BOHTHLINGK-ROTH[10] and MONIER-WILLIAMS refer to the two forms *avasvarāti* in *Ṛgveda* 8.69.9 and *avasvaret* in *Lāṭyāyana Śrauta Sūtra* 7.11.12, but there is also a third form like *avasvarat* in *Sāma Veda* Uttarārcikā 6.3.2.4.

Of these RV 8.69.9 is :

ava svarāti gargaro godhā pari saniṣvaṇat
piṅgā pari caniṣkadad indrāya brahmōdyatam //

which WILSON translates as—'The drum utters its sound, the leathern guard twangs, the tawny bow string leaps to and fro ; let the hymn be raised to Indra.'[11] GELDNER renders the first pāda like ''Es ertöne die Trommel (?)'[12] and supplies a footnote 'Die schlachtmusik als Erbauung für Indra'.

9. Vide *verse* 188.
10. *Sanskrit Wörterbuch*, 1440.
11. H. H. WILSON, *Ṛgveda-Sanhita*, Vol. V, London 1888.
12. Karl GELDNER, *Der Rig Veda*, Vol. II Harward, 1951, p. 394.

Sāyaṇa comments '*gargaraḥ gargaradhvaniyukto vādyaviśeṣo yuddhe avasvarāti bhayaṁ śabdayati*'. Here GRASSMANN takes *ava* √*svṛ* to mean only 'erklingen' and adds 'von Saiteninstrumenten'[13] about which we cannot say anything unless we know what exactly was a *gargara* like. From all these remarks and context of the original text it may be said for certain that the prefix *ava-* has no special significance of its own here.

Turning to the form *avasvarat* in *Sāma Veda* Uttarārcikā 6.3.2.4 which reads:

asmā asmā idandhaso'dhvayro pra bharā sutam |
kuvit samasya jenyasya śardhato' bhiśasteravasvarat ||

which is translated by GRIFFITH as:

'To him, Oh Adhvaryu! Yea, to him give offerings of the juices expressed! Will he not keep us safely from the spiteful curse of each presumptuous high born foe?'[14]

BENFEY also translates *avasvarat* by 'schützen'[15] but gives the meaning of *ava*√*svṛ* as 'fortrauschen'[16] which does not sound good. Sāyaṇa renders *avasvarat* as *pālayatu* and RENOU has pointed out that this *avasvarat* has been mistaken for *avasparat*.[17] The reading *avasparat* is to be met with in the same verse in RV 4.7.14. Meaning assigned to *ava*√*spṛ* by BOHTLINGK-ROTH is 'losmachen, befreien' (1356) and by GRASSMANN 'schützen' (1609).

Occurrences of these two forms of *ava*√*svṛ* in *RV* and *SV* both are not of much help for our purpose but the one in *Lāṭy. Śr. Sūtra* is significant. The sūtra in question runs:

avasvarediti dhānañjapyaḥ kṣā 3 *to* 3 *ā* 3111 ||

Agnisvāmin's commentary on this is:—*avasvarediti avasvarāntaṁ kuryyādityevaṁ dhānañjapya ācāryyo manyate ava adhobhāve kṣā* 3 *to* 3 *ā* 3111 *ityetatsvaraṁ kuryyāt.*[18]

Here *ava adhobhāve* is to be marked as also the nominal form *avasvara°* in combination with *°antam* which means 'lowered sound'. Nirukta notes *vinigraha* as the meaning of *ava*—in *ni ava iti vinigrahārthīyau* 1.3 but it does not work here. MONIER WILLIAMS gives 'to sustain with gradually lowered voice' as the meaning

13. GRASSMANN, *Wörterbuch Der Rig Veda*, 1629.
14. R. T. H. GRIFFITH, *The Hymns of the Sāma Veda*, 3rd Ed. Benares, 1926, p. 258.
15. Theodor BENFEY, *Die Hymnen des Sāma-Veda*, Leipzig, 1848, p. 276a. 'Diesem, diesem reiche fürwahr, Priester! den Saft des Somatrankes, vor jedes zu bekämpfenden Gewaltigen Hohne möge er schützen uns.'
16. *Ibid.* p. 123-4.
17. L. RENOU, List of Words and Forms in the Sāma Veda, *Vāk*, No. 2, p. 116.
18. Anandacandra VEDANTAVAGISA, *Śrauta Sūtra of Lāṭyāyana*, Calcutta, 1872.

of *ava*$\sqrt{}$*svṛ* and Bohtlingk-Roth assign 'austönen, die Stimme sinken lassen' (1440) of which the second is more appropriate for *avasvara*, in the Marathi verses cited above, which means 'gradually lowered or subsiding sound', sound that dies away at the end of a musical melody.

To confirm the meaning of *ava*$\sqrt{}$*svṛ* it will be of advantage to consider the following citations containing a synonymous root *ava*$\sqrt{}$*nard* with Vyākhyā on them.[19]

I. *dvir avanarddet* Tāṇḍya Brāhmaṇam 7.1.2.

Comm.: *avanarddet avasvaret antyākṣaraṁ uccaiḥ kṛtvā nīcaiḥ avasthāpayet*—Sāyaṇa.

II. *pūrvāvāvargāvavanardyau iti dhānañjayyaḥ*
Drāhyā. Śrauta Sūtram 21.2.2

Comm. "*dviravanarddet*" *iti brāhmaṇaṁ vyācaṣṭe pūrvau āvargau gītikhaṇḍau avanardyau avanardanīyau avasvaret ityarthaḥ khaṇḍayorantyamakṣaraṁ uccaiḥ kṛtvā nīcaiḥ avasthāpayet ityarthaḥ*
Dhanvibhāṣyam.

The substantive *avanardda* is to be seen in :—

III. *kiṁ svarūpaṁ avanarddo bhavati? ityata āha— pratyutkramya kṛṣṭaṁ avanarddaḥ.* Gāyatra Vidhāna Sūtram 19.

Comm.—*pratyutkramya* (*uccaiḥ kṛtvā*) *kṛṣṭaṁ* (*nīccaiḥ karaṇaṁ*) *avanarddaḥ* (*avasvaraḥ*).

The nominal form *avasvara* in Old Marathi is subject to further derivation yielding *avasvarī* m. (**avasvarin*), *avasvarī* f. (**avasvarīkā*) and *avasvarṇī* f.

avasvarī m. taken to mean 'messenger' by Kolte may appropriately stand for a 'royal announcer or usherer' who is otherwise called in Marathi 'bhāldāra or chopadāra.' When the king Bhīmaka was in conference with his minister the *avasvarī* (royal announcer) duly saluted him and politely announced to inform the king of the arrival of a bard (*nāgarī*) that is being spoken about in the city on hearing his march-drum. The Marathi text is :

aiseṁ rāvo pradhāneṁsīṁ bole : tavaṁ avasvariyeṁ jūhārileṁ
hāta joḍuni vinavīleṁ : Vaidarbheśvarāteṁ // 127 //

" ***devā ! mājhe hote bāhīrī : tehīṁ niśāṇa āikile durī***
aise bolijatāe nagarābhītarī : je nāgārī yeku yetāye " // 128 //

19. I am indebted to Prof. A. N. Narasimhia of Mysore for these references.

On this the king replies that he knows already that Kalyāṇakīrti, the bard of the lord of Kāśī is coming to pay him (Bhīmaka) a visit. This reply lays bear the fact that the one who was a messenger has already done his own job well of submitting a definite message to the king.

A messenger carries a message directly from one person to the other and does not have to depend upon what people speak amongst themselves. *Avasvarī* referred to in the above verse, therefore, is not a messenger. This man is reporting to the king what his men—friends or relatives—who were outside (the palace) heard being discussed in the town. An announcer or usherer has to stay at the entrance all the time, naturally he has to rely on other persons for news outside the palace. A peculiar musical tone of royal announcers at a king's court and lengthening sound at the end of their announcement that gradually subsides and dies away ultimately, is commonly known here in India. This gradual subsiding end of his announcement explains the propriety of his being called an *avasvarī* (**avasvarin*).

avasvarīṇī f. :—

This occurs only in Ms. '*Da*' of *Rukmiṇī Svayaṁvara* the reading accepted in the constituted text is *avasariṇī* meaning 'she who tells time' (*vela sāṁgaṇārī*) i.e. who reminds her mistress when it is time for the lady to perform her daily routine work like bath, toileting etc. or any occasional thing agreed upon previously to be done on a particular day at some specific hour. The commentator (*ṭīpa-kāra*) interprets this word like "*āvasariṇīṁ : bhalatā artha jāṇavīti*" i.e. 'she who explains (to her lady) implied meaning' of anything, in other words 'she who reads between the lines'. In this connection it may suffice to point out that the learned editor of *Rukmiṇi Svayaṁvara* finds at a number of places that the '*ṭīpakāra*' has stretched matters too far to find meanings which were not intended by the author—Narendra —himself.[20]

Section 16 consisting of 6 verses (102-107) enlists the names of female attendants of Rukmiṇi and duties assigned to them. Karpūrikā looks to betel preparation, Candrikā waves chowrie, Cārurekhā is a danceuse, etc. Of these maids Ratnāvatī is *Śṛṁghāriṇī* i.e. in charge of decorating (dressing?) and toileting, Candrahaṁsā is *avasariṇī* and Siṁdhumatī waves some specific things round the lady muttering chants to keep her away from evil. (*dṛṣṭi oḷage maṁtriṇī : Siṁdhumatī.* 104). It may be suggested here that *avasvariṇi* occurring in the place of *avasariṇī* in '*Da*' Ms. can be interpreted as 'she who sings (or speaks) to the lady in a low tone' when dressing her hair etc. and that is being done by Ratnāvalī. Singing or speaking to the lady in a soft low tone to amuse the lady but not to distract her while she is being attended on by some other maid. For, continuous talking is monopolised, if we may say so, by Madanakaḷā and Sarasvatī is there to sing to the accompaniment of Cārurekhā's dancing.

20. p. 178.

In this sense then *avasvariṇī* is a derived form of *avasvara* if the suggestion made above is accepted. It is to be remembered the Ms. *Da* is much older than the two other Mss. *Ka* and *Ma* i.e. it is nearer to Narendra's original text.

Avasvarī f. meaning ' worry ' is to be read in Dhavaḷe of Mahadaṁbā. Before the Svayaṁvara a Brahmin messenger from Rukmiṇī came to see Śrīkṛṣṇa. After that meeting Śrīkṛṣṇa accompanied the Brahmin to Kuṇḍinapura without informing anybody. When this secret departure was reported to Balarāma :

ekale deva nīgāle rāmu karī avasvarī :
calā calā mhaṇauni āphāviliyā bherī :
nīsāna lāgaleṁ paḍhiyārāṁ ṭāḷa phokarītī :
peṇeṁ keleṁ kauṇḍaṇyā baḷibhadrā-ugrasenā jāṇavītī // 25 // [21]

'(Bala) Rāma was worried because the god (Śrīkṛṣṇa) started alone for Kuṇḍinapura. Everybody was ordered to be quick (literally ' start '), marching drums were beaten, battle-drums and cymbals were sounded and they marched towards Kauṇḍaṇya(pura).'

Balarāma was worried because he anticipated an army of asuras to follow Śiśupāla on the scene of Svayaṁvara and Kṛṣṇa though strong, was alone. Balarāma knew that only moral support is of little use when the rival is equipped with his army.[22] He, therefore, hastened to collect his man-power and set out to join Śrīkṛṣṇa as early as possible.

On hearing something unexpected that causes worry one naturally speaks to oneself or rather thinks aloud and tone of such a talk is generally low. A speaker uses a lower tone (*avasvara*) than his normal.

The above discussion points out a fact that there are two distinct words *avasara* and *avasvara* having quite different meanings and that they are confused in manuscript-writing. It is, however, difficult to account satisfactorily for this confusion on the point of metre. If we consider *avasariṇī* as against *avasvariṇī* a possible explanation would be simplification of the conjunct consonant *-sva-*>*-sa*— e.g. *sarasvatī*>*sarsatī* is commonly heard from an uneducated speaker of Marathi. It is likely that this may have caused confusion the other way round.

21. V. N. Deshapande, *Ādya Marāṭhī Kavayitrī*, p. 6.

22. *Ibid. āikauni rāma mhaṇe tetha hoila asurāṁcā meḷā : jarhī bala jāḷeṁ prabhūceṁ (tarhī) na pure manīṁcā kaḷavaḷa* // 24 //.

My thanks are due to Dr. M. A. Mehendale for a couple of useful suggestions he made on reading this paper in Ms. form.

THE WORD RSI IN THE VEDA

By

V. G. RAHURKAR

As a student of the Avesta-class run by the late Dr. I. J. S. TARAPOREVALA on behalf of the Vaidika Saṃśodhana Maṇḍala, Poona, I had the fortune to listen to and participate in many interesting philological, etymological, semasiological and other discussions. In the course of one of the lectures he referred to the phonetic similarity between the word *ṛta* in the Veda and *aśa* in the *Avesta*. He referred also to his article in the *Sir Aśutoṣa Mukerjee Silver Jubilee Volume, Part II*. The reading of that article gave me an impetus to investigate into the matter. Consequently I could contribute this article as an humble tribute to the memory of the late-lamented Dr. TARAPOREVALA.

It would be appropriate, first, to discuss how the word *ṛṣi* is generally explained. The *TĀ*[1] derives the word *ṛṣi* from *abhi* + *ā* + *ṛṣ* (= to go towards, to appear). Sāyaṇa[2] also derives it from *ṛṣ* (= to go).[3] Sāyaṇa in his commentary on I.1.2[4] again explains the word from the grammatical point of view. The word *ṛṣi* is made up, according to him, of *ṛṣ* + *in*. There is no ablaut of the radical vowel in the case *ṛ*, according to Pāṇini's *sūtra*, *ṛṣyandhaka* etc., otherwise the word would have been *arṣin*. If, however, the termination is taken to be *kit*, then the question of the modification (*guṇa*) of the penultimate short vowel does not arise at all. In his introduction to the commentary of the *ṚV*[5] Sāyaṇa seems to connect the word *ṛṣi* with *dṛś* (= to see), saying that the Veda which was beyond the scope of sense-perception, was revealed, first of all, to the sages through the favour of God. As the sages were thus first 'to see' the Veda they are called *ṛṣis*. In his *Nirukta* (2.11) Yāska also quotes the opinion of Aupamanyava : *ṛṣir darśanāt / stomān dadarśa iti Aupamanyavaḥ*. The implication

1. *TĀ* 2.9 : (Ajān ha vai pṛśnīṁstapasyamānān brahma svayambhvabhyānarṣat tadṛṣayo' bhavan.

2. Cf. *Sāyaṇabhāṣya, ṚV*, VSM, I, p. 32 : ṛṣ gatau iti dhātuḥ.
vedaprāptyartham tapo'nutiṣṭhataḥ puruṣān svayambhūrvedapuruṣaḥ prāpnot.

3. The root *ṛṣ* is frequently used in the *ṚV* to mean 'to go', e.g. I.164.15, IV.58.6, and IX, 34.2. Cf. also *Vāyu P.* 59.80 : ṛṣityeṣa gatau dhātuḥ śrutau satye tapasyatha.

4. Cf. *Sāyaṇabhāṣya, ṚV*, VSM, I. p. 36 : in pratyayānta ṛṣiśabda 'ṛṣyandhaka ' iti nipatanāt (pāṇini 4.1.114) laghūpadhaguṇābhāvaḥ (pāṇini 7.3.86).
kitpratyayo va'tra jñeyaḥ (Uṇādisūtra 4.559).

5. Cf. *Sāyaṇabhāṣya, ṚV*, VSM, I, p. 32 : tathātīndriyasya vedasya parameśvarānugraheṇa prathamato darśanāt ṛṣitvamabhipretya smaryate " yugānte'ntarhitān vedān setihāsān maharṣayaḥ / lebhire tapasā pūrvamanujñātā svayambhuvā // "
The word *ṛṣi* occurs in the *ṚV* about 56 times. Sāyaṇa in his commentary explains it differently at different places as *atīndriyadraṣṭā*, *mantradraṣṭā* and *jñānavān* etc. It seems that according to him the *ṛṣi* was a person endowed with a prophetic knowledge and a poetic vision.

of this interpretation obviously is that the Veda is eternal, that it has not been created by any agency, and that the only thing for which the *ṛṣis* may claim credit is that they 'discovered' it and brought it to the notice of the posterity. The *ṛṣis* are indeed *sūktadraṣṭāraḥ* and not *sūktakartāraḥ*. The *Nirukta*[6] further informs us that the *ṛṣis*, to whom the knowledge was directly revealed, imparted it through direct instruction, to others to whom it was not revealed. These latter becoming diffident about the continuity of this direct tradition and with a view to preserving every single letter of it, composed the Vedas and the Vedāṅgas. The *ŚB*[7] derives the word *ṛṣi* from *riṣ* (= to toil hard, to suffer from). All these traditional interpretations[8] of the word *ṛṣi* seem to take into account the content -- direct as well as implied— of the word rather than its linguistic form.

ULHENBECK[9] tries to connect the word, *ṛṣi*, with Avestic *ereśya* meaning 'right-doing'. TARAPOREVALA[10] has shown the correspondence existing between the words, *aśa* of the Avesta and *ṛta* of the *RV*. He points out that *ṛtasya panthāḥ* in the *RV* (VII.55.3) and *aśāhe pantāo* in the last stanza of *Yasna* (LXXII.11) suggest the concept of the path of righteousness or purity. A regular gradation in the *Avesta* is pointed out by him such as : *ṛta* --*ereta areta* —*arta*—*arśa* (*ereś*)— *aśa*. According to TARAPOREVALA, therefore, the word *ṛṣi* is a derivative from *ṛṣ* (i.e. truth or righteousness).

GRASSMANN[11] tries to derive it from *arṣ* (= to flow) and hence *ṛṣi* means one in whom knowledge is flown. G. BLOCH[12] also suggests that the word *ṛṣi* may be derived from *arṣ* (variant : *varṣ*) because the *ṛṣi* is, indeed, a rain-magician. The *PW*[13] derives it from *arc* —to praise. GRAY,[14] on the other hand, states that the etymologies given by all these modern scholars appear to be phonologically impossible. GRAY thinks that *ṛṣis* received their appellation because they were

6. Cf. *Nirukta* I. 20 : Sākṣātkṛtadharmāṇa ṛṣayo babhūvuste'varebhyo'sākṣātkṛtadharmabhya upadeśena mantrān sampradúḥ, upadeśāya glāyanto'vare bilmagrahaṇāyemam grantham samāmnāsiṣurvedam ca vedāṅgāni ca /.

7. Cf. *ŚB* 6.1.1.1 : śrameṇa tapasā ariṣanta tasmād ṛṣayaḥ /

8. Some other traditional interpretations of the word are :—
   (*a*) *VS* VII. 46 ṛṣirmantrāṇām vyākhyātā /
   (*b*) Baudhāyana in his *Dharmasūtra* 2.6.36 : ṛṣirmantrārthajñaḥ.
   (*c*) The *Medinīkośa* : ṛṣirvede vasiṣṭhādau / Cf. also *Trikāṇḍaśeṣa* 3.3.485.
   (*d*) *Amarakośa* : ṛṣayaḥ satyavacasaḥ 2.48.

9. *Kurzgefasstes etymologisches Wörterbuch der Altindischen sprache*, 35 (Amsterdam, 1898-9), corrected by C. BRTHOLOMAE.

10. *Sir Aśutoṣa Mukerjee Silver Jubilee Volume*, part II, pp. 143-146.

11. *Wörterbuch zum Rigveda*, p. 292. SIDDHSHWAR VARMA, in his *Etymologies of Yāska*, p. 55, also points out that according to linguists the word should literally mean 'enraptured' as it goes back to Indo-European *ers-*, *eṛs*—to flow, cf. *Lat. arszus-* 'violent'; Greek *arsen*—male Avestan *arśan*—man. Rajwade in his *Yāska's Niruktam* p. 848, says that it is impossible to derive the word.

12. *WuS*, 2.4.7.

13. *PW*, I. p. 1063.

14. "Four Indo-Iranian Etymologies" (Sanskrit *ṛṣi*—seer), *Language*, Vol. 25, pp. 375-76.

believed, in a pre-historic period, actually to have ' seen ' the hymns while in a highly emotional state of religious exaltation, very possibly in a trance. .With this hypothesis GBAY tries to connect tnc word, *ṛṣi* with Sanskrit *reṣ*—roar ; Gothic *razda* and *OE record* (speech). The IE-base *rese* thus appears in Sanskrit as *ras* (= to howl, to cry) ; perhaps in Latin *raccāre*, *rancare* (= to roar) and *rāna*— ' frog '. The entire group, according to GRAY, appears to go back to an onomoto-poetic base represented by Sanskrit *re*, a vocative particle generally expressing contempt or disrespect. GRAY's suggestion is certainly ingenious and actually seems to point the way to a correct etymology of the word, *ṛṣi*. Whatever, however, be the correct etymology of the word, the concept, *ṛṣi* has all along been taken to include ideas relating to poetic and prophetic vision, super-sensual knowledge, righteousness and ecstacy.

VIŚPĀLĀ : A POSSIBLE CASE OF VEDIC HAPLOLOGY

By

M. A. MEHENDALE.

The word *viśpálā* is attested only in the Ṛgveda as a proper name in one of the Aśvinā legends. At one time it was believed that it was the name of a woman[1] who was helped by Aśvinā with an iron leg. Hence GRASSMANN (*Woerterbuch*): " Eigenname eines Weibes, dem die Açvinen in der Schlacht helfen und ihr ein ehernes Bein ansetzen " ; and BOEHTLINGK-ROTH : " N. pr. eines Weibes, welchem die Açvin das abgerissene Bein wieder anheilen oder durch ein ehernes ersetzen ". But the correct meaning of *viśpálā* as the name of an animal - a mare - was pointed out by PISCHEL in *Ved. St.* I (1889), 171-73 where some of the earlier views regarding the meaning of *viśpálā* as a proper name of a woman, perhaps of a royal family, or of dawn. are also referred to. Having considered the passages which are useful for understanding the word and having established its meaning as the name of a mare, PISCHEL gives towards the end of his article the Viśpálā-legend as follows : " Der Sohn des Agastya oder dessen Patron besass eine Stute, Viçpàlā mit Namen, der bei einem Wettrennen zu Ehren des Vivasvant ein Bein abgerissen wurde. Agastya flehte die Açvins, seine bevorzugten Gottheiten, um Hilfe an und diese setzten der Viçpalā ein eisernes Bein an, wodurch sie den Preis gewann " (p. 173).

The purpose of the present paper is not to go into the details of the above legend but to offer a suggestion regarding the derivation of the word. So far the only attempt that has been made to my knowledge is the one by GRASSMANN (*Woerterbuch*) who observes : "urspruenglich wol die Haus oder Stamm beherrschende, wenn pala = pāla Erweiterung von pā ist." The same view has been referred to in the Dictionary of MONIER-WILLIAMS where we read : " accord. to some fr. 2 *viś* and *palā* = *pālā*"[2] But this derivation is hardly satisfactory, for apart from the fact that it presupposes *palā* = *pālā*, the very verb √*pāl* itself and its derivative *pāla* are not to be met with in the Ṛgveda.[3] Secondly, in such a case the nominal formation *pālá* as an agent noun would have been accented on the suffix and this accent on the ending would have been kept up in the compound. We would have thus expected *viśpalà* and not *viśpálā*. Moreover this explanation leads us to

1. So also Sāyaṇa—*Viśpalāṁ saṅgrāme chinnajaṅghāṁ Khelasya sambandhinīṁ striyaṁ* on ṚV. 1.117.11. This also seems to have been the view of MACDONELL (*Vedic Mythology*, p. 52) who refers to MUIR, *Original Sanskrit Texts* V. 245 and MYRIANTHEUS 100-12 for support. He does not seem to agree with PISCHEL's view to which he refers in the same footnote.

2. It may be observed that the author of the Padapāṭha does not separate the word in any way. To him the word seems to have been ambiguous.

3. ‹For the explanation of AV. *pālá-* = *pārá* from √*pṛ* ' to bring over, to rescue, etc.' cf. DEBRUNNER-WACKERNAGEL *Alt. Gr.* II. 2, § 692 b and the references given there.

add to the exceptions[4] of Sanskrit sandhi rules, for in the light of the above explanation we expect a form *viṭpalā* instead of *viśpalā*.

It is therefore suggested that *viśpálā* may not be separated as *viś-pálā* but as *viśpá-lā* and be considered as a case of Vedic haplology, the word having to be derived from *viśvá-vārā*. This derivation is supported by the accent of *viśpá-lā* which is on the second syllable. In this respect it agrees with *viśvá-vārā*, and in fact this is the usual accent of *viśva-* in compounds whenever it carries the accent.[5]

Now the adjective *viśvá-vāra* (fem.-*vārā*) in the sense "allbegehrt' (GELDNER, also Sāyaṇa)[6] is used mainly with the deities like Agni, Uṣas, Soma, Bṛhaspati, Vāyu and some others.[7] What interests us, however, here when *viśpálā* as the name of a mare is sought to be derived from *viśvá-vārā* is the fact that this adjective is also occasionally used in the Ṛgveda with the mares. Thus the *niyuts* of Indra in the ṚV. 6.22.11 (also occurring in the AV. 20.36.11) and those accompanying Indra and Vāyu in the ṚV. 7.91.6 are called *viśvá-vārā* ' chosen by all, desired by all '. Moreover it is possible to suggest that at least in some cases where *viśvá-vāra* is used with some word meaning ' wealth, riches, etc.' what is intended by the latter is a group of horses or mares. This is suggested by the fact that in these cases where *rayí*, *raí*, or *dráviṇa* is used with *viśvá-vāra* it is either further qualified by the adjective *sūgmya* (ṚV. 1.48.13) or is associated with the verb √*inv*-(*sám inva* ṚV. 5.4.7, *invati* ṚV. 6.5.1) or the verb √*yam* (*prá yandhi* ṚV 3.36.10). In the end it may be noted that the use of *viśvá-vārā* as a proper name is attested for the Vedic times by the fact that a cetain woman of the Atri family, *Viśvavārā* by name, is reputed to have been the seer of ṚV. 5.28.

All these facts seem to suggest the possibility that a certain mare of the legendary fame had received the name *viśvá-vārā* because she was particularly liked by all as the winner of a difficult race (cf. ṚV. 1.112.10, 1.116.15 and the story in the

4. Cf. WACKERNAGEL, *Alt. Gr.* I p. 327, who notes that the other exception (*viśpáti* and (*viśpátnī*) is not found beyond the Brāhmaṇas. In epics and classical works we have *viṭ-pati* instead.

5. The original accent of *viśva* is on the first sylab.e It is significant to note that Pāṇini (6.2.106), enjoins the accent on the second syllable of *viśva* in a Bahuvrīhi compound when it is used as a *saṁjñā*. This poses a problem, since not all compounds with *viśva* in the Ṛgveda having this accent can be considered as *saṁjñā*.

6. The meaning given by GRASSMANN is ' mit allen Gütern versehen ' and by BOEHTLINGK-ROTH ' alles Werthe-, alle Schaetze enthaltend,-gebend u.s.w.'

7. For references and a few other uses cf. GRASSMANN. In the AV. 9.3.1, 2, 4 it is used with *śālā*, and in the ṚV 5.28.1 and in the mantra given in the ŚB. 1.5.2.3 it is used with a sacrificial spoon.

8. A similar case showing Avestan influence has been noted by me in the derivation of Pāli *supāna* ' dog ' from AV. *span* (*spāna*) = Sk. *śvan* (*śvāna*), cf. *Bull. DCRI.* 17.167 (1955-56).

9. It is not possible to consider *-la* as a secondary suffix since the word in the sense given here does not seem to come under the uses of this suffix mentioned by DEBRUNNER-WACKERNAGEL *Alt. Gr.* II. 2, § 693 ff. Moreover in that case the accent would be on the suffix. It may, however, be noted that Patañjali to the Kārikā on Pāṇini 5.3.83 notes the use of *-la* (= *ila*) if a short form of a personal name ends in *-u*, thus *Bhānu-la* for *Bhānu(-datta)-la*, *Vasu-la* for *Vasu (-datta)*

words of PISCHEL given above). This name, by haplology, seems to have become *viśvá-rā*, for which the Avestan equivalent would be *vispa-rā*.* It is well known that for Skt. *viśva*, the Avestan equivalent is *vīspa*. These two forms *viśvā-rā* and* *vispa-rā* further seem to have given rise to a contaminated from* *viśpā-rā*,[8] and it is this form that we anticipate in the older portions of the Ṛgveda. *viśpā*-lā, however, occurs only in later portions and hence only form with *l*-has survived.

-la. DEBRUNNER-WACKERNAGEL (II. 2. p. 864) remark on this : " Hinter andern Stammausgaengen ist dieses-*la*-von den Gramm. nicht anerkannt ; doch beachte den Mannsn. Kāṭh *devala*-."

THE AVESTA PARTICLE "AṬ" 𐬀𐬝 AND THE MODERN LEGAL PARTICLE "WHEREAS".

By D. D. Kapadia.

The Avesta particle "aṭ" 𐬀𐬝 occurs repeatedly in the Gathas more especially in the beginning of a Stanza, Quotation or Citation In the other texts it is sparingly used In the translations of the Gathas by various Scholars it has been translated as-thus, thereupon, consequently ; assuredly, yes; and sometimes it has been considered as *redundant* ; and simply introduced for adjustment of the poetic metre of the Stanza.

However on an examination of all the references where it occurs in the Gathas and elsewhere, I am led to infer that it can very conveniently be taken as representing the modern legal particle "WHEREAS". It is a well-known fact that in all legal documents, at the commencement of every important citation, our modern legal jurists use the word "Whereas" ; and on an examination some 111 stanzas or quotations in the Gathas and other references in the Avesta where it generally occurs at the commencement of an Invocation, Prayer, Citation &c., it can be conveniently inferred that this particle "aṭ" 𐬀𐬝 is neither an insignificant nor a redunant particle, but an important and significant particle, corresponding to modern legal phrase "WHEREAS".

Further confirmation of this interpretation is clearly afforded by the Pahlavi translations of the Gathas, where it is invariably translated by "aêṭûn" and the compound forms of this particle "aṭ" 𐬀𐬝 such as "aṭ-chā" 𐬀𐬝𐬗𐬁 and "aṭ-chiṭ" 𐬀𐬝𐬗𐬌𐬝 are translated by the word "aêṭûn-cha". A detailed and full examination of all the references is further entered into which tempts one to arrive at the inference, that the Avesta particle "aṭ" 𐬀𐬝, the Pahlavi particle "aêṭûn" and "WHEREAS" of the English language are all identical; and holy Zarathushtra employed this particle "aṭ" 𐬀𐬝 in the Gathas etc., to indicate the cogency and to give an emphasis to all important Citations, Prayers, Exhortations and Appeals.

The summary given as above, gives the full gist of this paper of mine and in what follows there is simply an attempt to collect all the references where the particle "aṭ" occurs, together with the translations of those quotations as given in Pahlavi and their translations in English, showing as to how the legal particle "whereas" can explain the meanings at all such places.

I may however incidentally mention that by such an examination, not only the meaning of the particle "aṭ" is established beyond doubt, but that the same examination establishes the import of the Pahlavi word "aêṭûn"; and the Pahlavi translators have more extensively made use of the word "aêṭûn" than the word "aṭ" in AVESTA.

The particle "aṭ" is generally used preceding - pronouns, verbs, and nouns—implying exhortations, appeals etc., and I have hereunder collected a list of some 111 quotations where the word "aṭ" occurs. I have numbered these quotatiens and the references are given according to the numbers in the list.

The particle "aṭ" with	(mâ)	in 76,77;
,,	(môi)	,, 37;
,,	(taṭ môi)	,, 35;
,,	(tû môi)	,, 50,51;
,,	(nə)	,, 54;
,,	(tôi)	,, 29,32,33,36, 37,52,71,75,95;
as	(aṭ-châ tôi)	,, 15;
,,	(aṭ tû môi)	,, 50,51;
,,	(aṭ zî tôi)	,, 40,70;
,,	(aṭ thwâ)	,, 20,40-46;
,,	(aṭ zî thwâ)	,, 5;
,,	(aṭ tâ)	,, 7,8;
,,	(aṭ-châ hyat tâ)	,, 9;
,,	(aṭ châ'î tôi)	,, 31;
,,	(aṭ vâ)	,, 3,38;
,,	(aṭ vâo)	,, 19,82,84,85;

as (aṭ və) in 2,22,83,88,94 96;
,, (aṭ-châ və) ,, 93;
,, (aṭ hî) ,, 21;
,, (aṭ hôi) ,, 47,55,,63,64,68, 70,74;
,, (aṭ-châ hôi) ,, 92;
,, (aṭ chiṭ dîm) ,, 98;
,, (aṭ chitbâ) ,, 99;
,, (aṭ têng) ,, 65;
,, (aṭ tâ) ,, 7,8;
,, (aṭ aipî tâis) ,, 17;
,, (aṭ ît) ,, 56;
,, (aṭ ahmâi) ,, 89;
,, (aṭ-châ ahmâi) ,, 38, 78;
,, (aṭ-chit ahmâi) ,, 81;
,, (aṭ akh^{v}yâi) ,, 73;
,, (aṭ ahyâ) ,, 77;
,, (aṭ îs) ,, 67;
,, (aṭ chiṭ aêibyô) ,, 18;
,, (aṭ yə) ,, 24, 91;
,, (aṭ yastem) ,, 66;
,, (aṭ yâ) ,, 87;
,, (aṭ yêng) ,, 1;
,, (aṭ yûs) ,, 23;
,, (aṭ â thwahmâi) ,, 49;
,, (aṭ hvô) ,, 27,39,53,55, 69,79;
,, (aṭ Ahurâ hvô) ,, 58;
,, (aṭ vâ) ,, 25, 26,28;
,, (aṭ-châ hyat) ,, 19;
,, (aṭ-châ yadâ) ,, 13;
,, (aṭ fravakhshyâ) ,, 57-62;
,, (aṭ ə vaochat) ,, 4;
,, (aṭ-châ gəus) ,, 6;
,, (aṭ ashâunê) ,, 10, 48;

as (aṯ kehrpem) in 12;
„ (aṯ Mazdâ) „ 14, 34;
„ (aṯ Ahurâ) „ 53;
„ (aṯ hudânâus) „ 86;
„ (aṯ aêshêmem) „ 11;
„ (at asistem) „ 16;
„ (at râtām) „ 30;
The particle "aṯ" as (aṯ akh^{v}aretê) „ 97;
„ (aṯ hama) „ 100;
„ (taṯ aṯ) „ 101, 103;
„ (tem aṯ) „ 106, 107;
„ (ashem aṯ) „ 108;
„ (apô aṯ) „ 109;
„ (âhû aṯ) „ 110;
„ dâidî aṯ) „ 111;
„ (θwām aṯ) „ 104;
„ (zî aṯ vê) „ 102.

From an examination of all these references, it can be easily inferred that that the Avesta particle "aṯ" is neither a particle to be interpreted according to one's own convenience nor a redundant particle, but of as great an importance as the word "WHEREAS", employed in Legal English nomenclature, and the word "AÊTÛN" of the Pahlavi Language.

THE INDIAN VILLAGE

By

I. Karve

A structure is something concrete and visual as also something abstract and conceptual. It is objective and subjective and the grades of objectivity and subjectivity differ from people to people depending on their social conditioning. A structure has a form or *gestalt* which may be sharply defined and simple or indistinct and vague. For a casual observer the habitation area called a village has a gross form in most cases. This form gets disturbed and becomes indistinct in certain ways and still something called " a village " remains with its objective boundaries and its subjective feelings for those who live in a village as also for those who are its neighbours. In some recent field-work in certain areas of Maharashtra (the region where Marathi is spoken), I felt forcibly the *gestalt* aspect of the entity we call a village. The question presented itself to me in a negative way. As I viewed certain villages and walked through them I found myself asking why the area was called a village at all.

Let me make my point clear by describing in short a very neat experiment carried out at the Poona University by Prof. Dr. Dora Ilse and Mr. K. K. Dixit[1] as regards the perception of the honey bee.

Honey bees, as is well known, prefer to feed on patches of certain colours rather than others. They can also distinguish simple geometrical forms. In these experiments it was found that bees preferred a patterned patch to a mono-coloured one. Thus if there were two patches of the same preferred colour, one plain and one with painted squares or star pattern on it, they preferred the patterned background. To find out how far the capacity for distinguishing the pattern went, the pattern was varied with reference to largeness and contour of the figures. It was found that when the alternately coloured squares (a check pattern) became very small the bees failed to distinguish between the patterned paper and the non-patterned mono-coloured piece. The perception of form and contours vanishes under certain conditions.

The bees prefer colour and form, and complicated structured or patterned form to non-patterned simple forms. There are however limits to the perception of structure. The experiment described above reveals one boundary of perception;

1. " Differential response to form and pattern in two species of Indian honey bees. " By K. K. Dixit. My thanks to Prof. Moghe for allowing me to read the paper in manuscript.

there must be the other boundary when the single units of a structure (in this reference the coloured squares) become so big that the structural perception vanishes.

In the case of human habitation there is also a structuring of different types. Under certain circumstances an observer ceases to perceive a structure. The gross structure and the arrangement of its internal parts lend themself to plotting on regional basis. The regional distributions of certain types can be interpreted in terms of physical environment as also cultural preferences. The structure of a habitation area is a perceived or a felt ' gestalt ' and can be analysed as a structure made up of structured interrelated parts.

Below is a first attempt at such description of human habitation areas, the internal and external communication systems and their regional distribution over a small portion of India.

It would be very difficult to experiment about the *gestalt* of a village as in the experiment on the bees above, but keeping the above idea in mind one can difine certain types of villages. For a casual observer the habitation area called a village has a gross discernible form in some cases. This form tends to be obliterated in certain ways and yet a village remains a felt entity for one who lives in it. In Maharashtra there appear to be three types of villages which are differently constituted as regards their *gestalt.*

(1) One type is the tightly nucleated village with the habitation are a clearly defined from the surrounding cultivated fields. These villages are situated on the high plateau of the Deccan. The intensely cultivated, almost treeless plain has a dark brown soil, where unfenced fields spread in all directions dotted at intervals by villages in which the houses appear to be tightly clustered together. The villages stand out distinctly from the surrounding fields—have a clearly marked *gestalt* with a background. The inset village is clearly delimited on all sides. In a rough diagram the landscape is made up of empty spaces dotted with habitation clusters as given in Figure 1.

In such villages, while the habitation area is well-marked, the boundaries of the village together with its fields is never perceived. The fields owned by one village merge into those owned by another except where a hillock or a stream or a highway forms the boundary.

(2) The second type of village is found on the west-coast (the Konkan) near the coast. The villages are generally strung along lengthwise on the two sides of a road. The houses stand in their own compounds with their fruit and coccanut gardens and are fenced on all sides. One walks or drives through fences on both sides of the road all the time. There are numerous tiny streams joining the Arabian

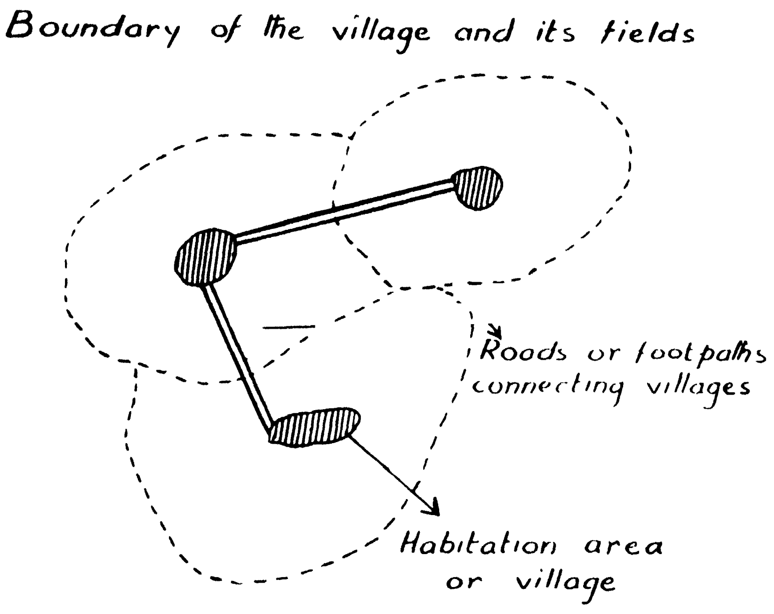


Fig. 1

sea and there are also spurs of the western mountains (the Sahyadri) coming right into the ocean. Where the streams join the sea they widen considerably, are fordable at low tide and have on both sides strips of salt marshes called Khājaṇa. These natural obstacles divide one village from the other. Where these are absent one village merges into the other and a casual traveller does not become aware of having crossed from one habitation area into another. The *gestalt* has changed not merely as regards form but also as regards the inter-relation of the back-ground and the *gestalt*. The sea-shore with its sand contrasting with the green cocoanut gardens make a sharp distinction between the waste and the utilised land. To a lesser extent the hills define the un-inhabited area from the inhabited one but as the lower slopes of the hills may be cultivated and fenced in, the boundary on this side is not quite distinct. The boundaries on the other two sides may be natural ones enumerated above or may be almost absent. In the intensly cultivated area near Bombay where plantains, betel-leaves and vegetables are grown the transition from one village into another is imperceptible. A rough sketch is given in Figure 2.

In such villages the exploitation of land is of two types—horticulture and agriculture. The gardens of cocoanut and arecanut palms and plantain, jack fruits and cashunuts are planted near the house and fenced in, while the rice fields may lie a little away from the houses though in some areas they come right to the steps of the houses. There is no sharp distinction betweeen the habitation area and the cultivated area.

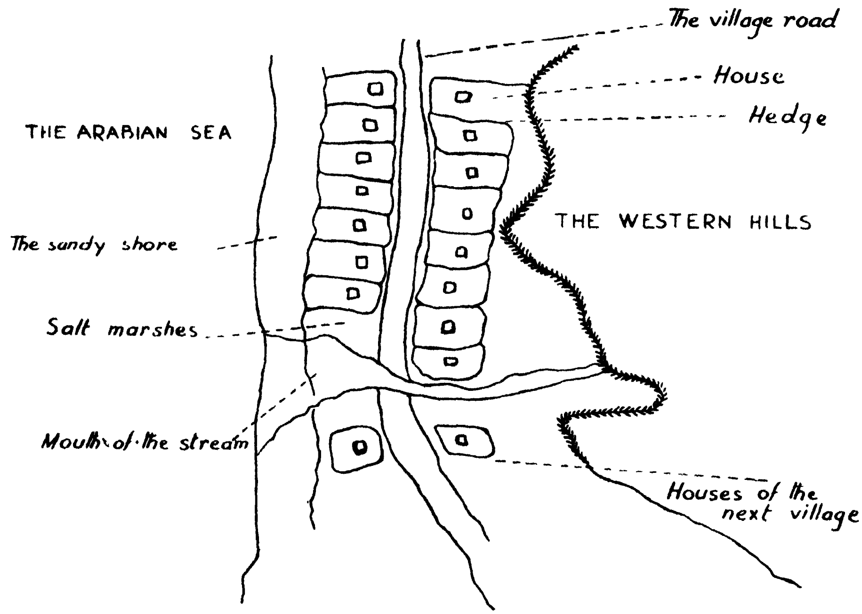


Fig. 2

(3) The third type of the village was found in the Satpura mountains on the north western boundary of the Marathi-speaking region. The Satpura mountains are made up of seven main east-west folds with undulating high valleys in between. A tribal people called the Bhils live here. They also live southwards in the Tapi-valley at the foot of the mountains where also their villages are different in many respects from the villages of the other plains-people whose neighbours they are. But still the valley-villages are more or less nucleated villages of the type described above. The highland villages on the other hand have such scattered houses that even after days spent wandering in these villages it remained a puzzle to me as to why some houses were said to belong to one village rather than to the next. The houses are situated in their own fields in clusters of two or three huts all belonging to a single close kinship group. They are either the huts of a father and grown-up sons or brothers and their wives. Sometimes a woman and her husband may have a hut in the same cluster as that of the father and brothers of the woman. The next cluster of huts may be as far as a furlong or two away depending on how big the holding of each cluster is. The village boundaries are many times not defined even by streams or hillocks because the houses belonging to one village are situated on separate hillocks or divided by streamlets. Added to this scattering is the habit of the Bhils to change the location of habitation on the smallest pretext ranging from a mishap to just the wish to be near a friend or even just wanting a change.

In this area the village loses its *gestalt* completely, on all four sides. The 'habitation area' is not distinguished from the 'cultivated area' and the widely scattered houses of such villages are many times nearer to the houses in the next village than to the houses of its own village.

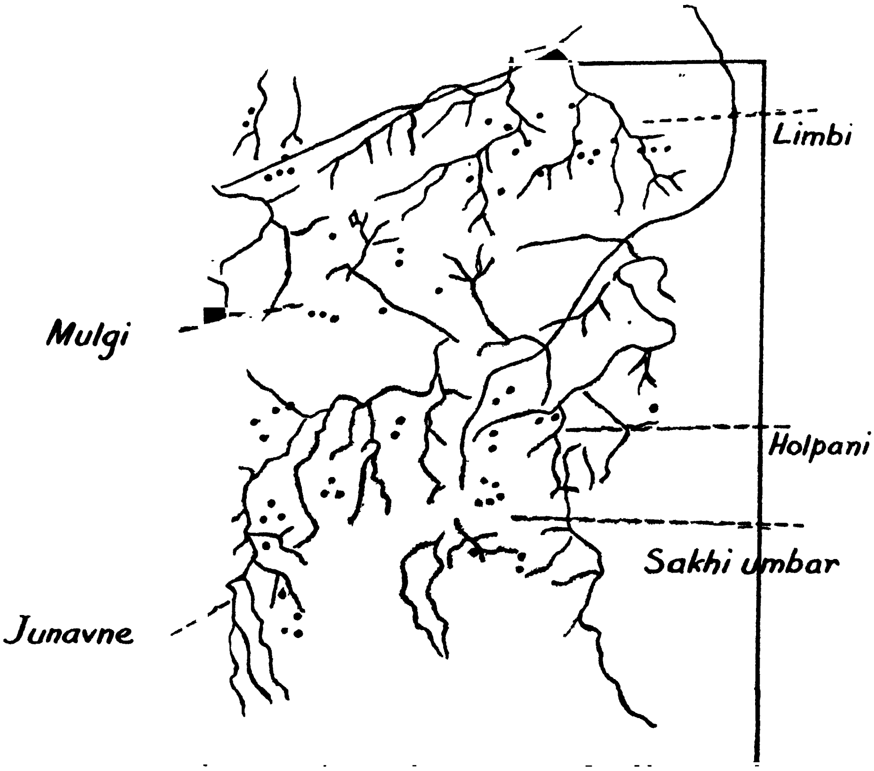


Fig. 3

The clusters of habitations illustrated above may belong to two or three villages and but for the stone heaps erected by the revenue department to mark the boundaries it would be difficult to separate one village from the other.

The function of the roads is different in these three types. In the first type (the tightly nucleated villages) there are two types of roads.

(*a*) The roads connecting different villages meant for inter-village communications.

(*b*) Internal streets or narrow alleys connecting housing areas. Some times a main arterial road may pass through or near a village and owing

to modern ribbon development may become the main street of the village but such cases are very few. One can generally distinguish between roads connecting villages and streets connecting internal habitation areas.

In the case of the villages of the second type, the main-road in the village is generally also the main arterial road joining the villages of the coast for miles and miles in one linear direction. Such roads are seen in most villages of the west coast from Bombay to Cape Comorin. The road from Cape Comorin to Trivendrum in the extreme south-west of India is a typical example of such a road. The bus travels between almost an unbroken line of fences on both sides and the traveller cannot discern the transit from one village to another. Such a road on the west-coast is the main communication artery within a village as also between villages.

In the third type of village there are no village streets because no houses are aligned along streets. There are only footpaths leading from one house-cluster to another and the continuation of these leads to houses in the next village. In the forest area there is a separation between the forest and waste land on the one hand and the cultivated and the sown land on the other but when one emerges from a road through a jungle one comes to a cluster of a few houses rather than to a whole village.

These habitation patterns are so distinct that they can be made out even on survey maps of one inch to one mile scale. One such has been reproduced above as an illustration of the Bhil habitation area (Fig. 3) and two are given below to illustrate a small area with nucleated villages in the Satara district (Fig. 4) and the other is from Ratnagiri district (Fig. 5).

As a consequence of these different ways of grouping houses in habitation areas, the individual dwelling or a cluster of dwellings gain individuality—are seen as a *gastalt*— to the same degree that the village or the whole habitation area loses its individuality or distinctness. In the tightly packed Deccan villages one loses sight of the indivudual houses which are but vaguely felt as parts of a big conglomerate. In the linear coastal villages a house being situated in its own compound and separated from the next house, has a greater individuality than a house in the Deccan villages. This individuality is however blurred to a certain extent as a single house is but one in a long row of similar houses. It is the row which impresses itself on the observer rather than the individual house. In the Bhil-area the individual house or house-cluster is a *gastalt* whose individuality is not disturbed by the proximity of the other houses. On the other hand the widely spaced houses or cluster are not experienced as a unity making one village separating itself from a similar unity called another village.

The first type of village is the one found all over the Maharashtra plateau as also in other parts of India like Uttar Pradesh, Gujarat, Andhra, Mysore and

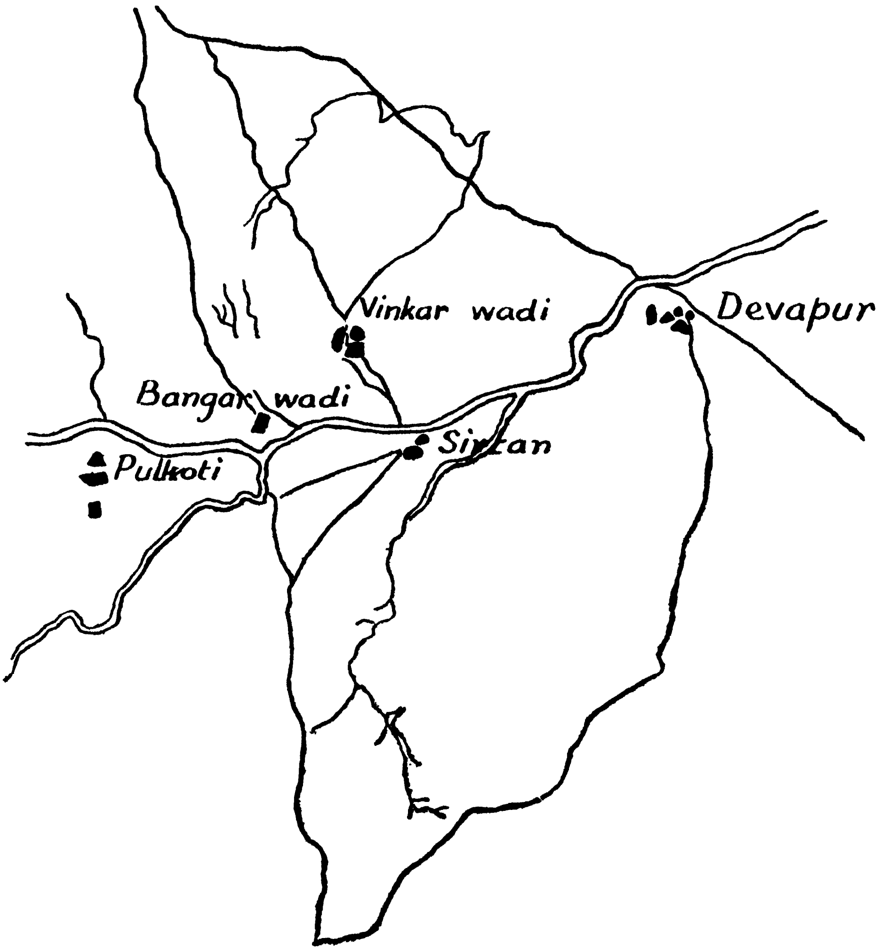


Fig. 4

Orissa. In this area sometimes one also finds villages strung lineally along a big road but they do not have houses in own compounds; the houses are built generally wall to wall with perhaps a narrow alley or two breaking the continuous line of houses.

The second type of village is found as already stated all along the western coast. Whether the same type is found also on the eastern coast I do not know.

The third type of village is found in parts of the Satpura region as also along the coast slightly in the interior. There are villages of scattered homesteads in the coastal area where sometimes the only way of internal communication is walking over the narrow bunds of the tiny rice fields, a very tricky business for strangers

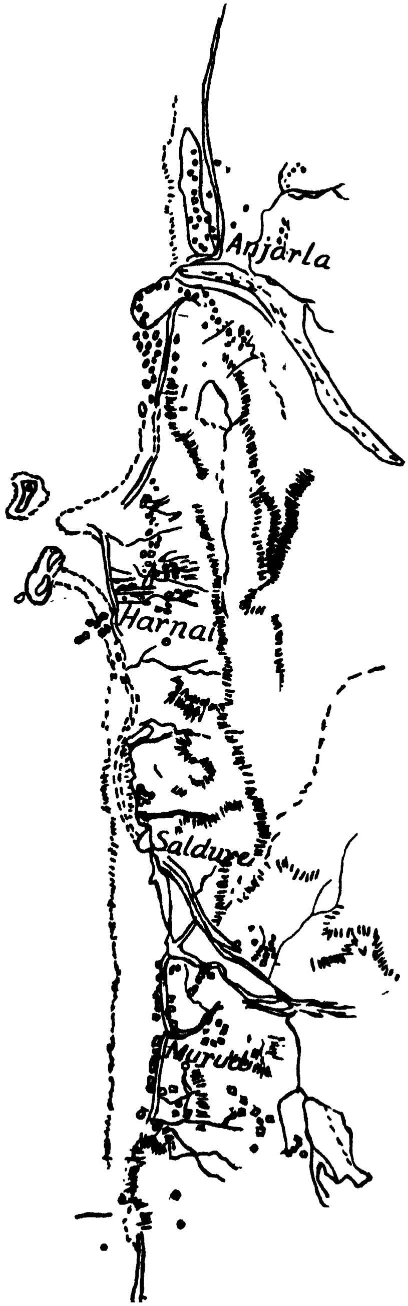


Fig. 5

especially when all the fields are full of water. Though this type is found in some hilly regions as also in some parts of the coast it cannot be called a jungle-type or a primitive type either, as there are a number of jungle people who live in villages where the houses are clustered together in a nucleus but are not as tightly packed as in some of the Deccan villages. The Gonds and the Kolams in Maharashtra and Andhra and the Katkaris in Maharashtra, the Bette Kuruba, the Jenu Kuruba, the Erawa and the Sholega of Mysore also live in villages made up of many huts. The Warli of the west coast and the Chenchus living in the Nallamalai hills live sometimes either in an individual family house apart from others or in a cluster of a few houses which cannot rightly be called a village.

What has been described up to now is the gross form of the village. Before describing further details about the internal structure of the village and its relation to social structures like the caste and the family two things must be briefly mentioned. A study of place-names shows a certain regional distribution as regards preferred suffixes. I have collected about 20,000 place-names in Maharashtra. An analysis of these and their distribution is being made and a detailed description cannot be given at this stage but a few peculiarities may be mentioned. The most usual place-name suffix in Maharashtra is *Gāon* derived from the Sanskrit word *Grāma* which also means a rural habitation area. (The words for cities are different and need not be discussed here.) The root-meaning of the word *Grāma* as given by WALDE and POKORNY is "a heap" or "a cluster" and seems to suit the clustered nucleated villages of the Deccan plateau.[2] There are other place-name suffixes. One is *Ghar* from Sanskrit *Gṛha* and means 'a house'. In Marathi, the language of Maharashtra, the word for house is also '*ghar*'. There are over one hundred and eighty villages which end in this suffix and over 90% of these are situated on the coast or in the hilly region between the coast and the plateau. It is in this area that one finds scattered homesteads as mentioned above. A few villages have as suffix the word "*Dāṇḍā*" or are simply called *Dāṇḍā*. *Dāṇḍ* or *Dāṇḍā* in Marathi has more than one meaning. The usual meaning is a big straight stick; it also means a bund and in some parts a water-channel, genrally man-made, to water gardens. These villages are situated right on the coast where, as we have seen the houses are arranged in a line.[3]

The second point about these villages is the internal and external communication system of these habitation areas. If we consider the Satpura Bhil villages first, we find that one cannot very well distinguish between roads connecting the houses in a village and roads connecting one village to another. One cannot rightly talk of an internal communication system at all. In the case of coastal villages,

2. WALDE and POKORNY, *Vergleichendes Wörterbuch der Indogermanischen Sprachen*. Vol. I p. 591.

3. In Uriya (language of Orissa) Daṇḍa means a street. 'Boḍa-Daṇḍā' is the straight wide road over which the festive car of the God Jagannath is drawn in the City of Puri. (Information supplied by prof. SUNITI KUMAR CHATTERJI).

Fig. 5 shows that the village main-street is also the great arterial road which connects villages on the coast. As the villages are rarely just two rows of houses but have some depth, there are small lanes which serve the purpose of internal communications. However the internal and external communication systems are not entirely distinct. The nucleated Deccan villages show a clear distinction between communications within one village and communications with other villages.

Again in this respect a study of words used in different languages of India for different types of communication arteries would be paying as it may show regional as well as cultural differences. In Sanskrit for example no differentiation seems to have been made between communication arteries within a habitation area and between habitation areas. The various words like *Patha*, *Adhavan*, *Mārg*, *Vartman*, *Rathyā* and *Vīthi* have different roots but with the exception of the last two, all the words seem to be used indiscriminately for internal as well as external communications. *Rathyā* is a road for wheeled traffic and differentiates itself in its 'meaning' from the first four which may be footpaths. However in actual practice in Sanskrit literature the first four words are used most frequently for a road inside a town, for roads connecting townships or kingdoms, for roads over which people walk, as also travel in vehicles. *Rathyā* from its context seems more like a road in the capital city. *Vīthi*, a word used most often for a road within a town, seems to be a late word and may not be of Sanskrit origin at all.

On the other hand in modern Marathi there are words which are used exclusively for roads within a habitation area. There are also words as in Sanskrit which are used for both internal and external communication arteries but there is a whole series of words which denote various types of roads inside a habitation area. *Āḷī*, *Gallī*, *Boḷ* are some of these words. *Āḷī* is a row of houses of one caste, or one profession ; Brāhman Āḷī means a road on both sides of which there are Brahmin houses, Tāmbat Alī means a road both sides of which have the work-shops of the makers of brass and copper pots. *Gallī* is a narrow street. "Gallī-Kuchchī" is an expression used for narrow roads full of mean houses. "Kuchchī" might have relation with the word 'Kancho' used for a certain type of communication in Gujarat. *Boḷ* is also a narrow road and is often named after some person or family. Though all the *Boḷs* in the city of Poona are open at both ends, certain expressions in the Marathi language suggest that *Boḷ* might have been a blind alley.[4] This again suggests a connection with the Gujarati word *Poḷ*. The intricate structure of the *Poḷ* will be described later. We find that an explanation of the various words used for an internal system of communication involves reference to social structures like the family and the caste. It would appear that these words have primarily reference to a type of habitation area within the larger habitation

4. e.g. "Boḷāt gāthane"--to catch a fugitive--in a Boḷ. The expression means that the quarry cannot escape. This suggests that a Boḷ was a blind alley from which there was no exit by a second end.

area called a village and secondarily mean communication arteries within a village. They reflect a differentiated society, leading to spearate areas for houses, leading to sub-areas and hence to internal communication channels. The differentiation within an inhabited village may be based on lineage or caste and we will describe it presently.

Before taking up the question of the internal arrangement of a village it might be useful to describe a very general feature of villages over a large tract of land covered by the whole of Maharashtra and Andhra-pradesh. Whether it is found elsewhere in India I do not know. This feature may even be called a feature of the internal structure of the village. It also describes one of the many ways in which new villages may be formed.

Whatever the place-name suffixes, the most common word for an habitation area in Marathi is 'Gaon' and in Telugu it is "Oor".[5] The question, "to which place do you belong to?" will always be asked with the words 'gaon' and 'oor' respectively. The answer may show that the person resides in a big city or a town or a hamlet but the word is invariably 'which gaon?' or 'which oor?' In the same way a person referring to another residing in the same place as himself uses the term "gaon-wālā" or "Gaonkari" in Marathi and "Pallit-oorivadu" in Telugu. In Maharashtra each 'Gaon' has habitation clusters a little away from the main habitation area. These clusters are called 'Vādi'[6] and are said to belong to a 'Gaon'. In the same way in the Andhra-pradesh there are clusters of huts a little away from the main village which are called 'Palli' or 'Guda' which are said to *belong* to an 'Oor'. The interrelation of the Wadi and Gaon is many fold. The Wadi people sometimes call the Gaon to which they belong 'Kasabā' or 'Peth', words which mean an area where various types of craftsmen (Kasabi) live or where there is a shopping and market centre. The hereditary village servants and village craftsmen live in the Gaon. The village headman, the Patil, also must live in the Gaon, the revenue records and office are situated in a Gaon. A Wādi is generally a cluster of agnatically connected households. It may sometimes have just one big family with its farm servants and livestock. Sometimes people live in temporary huts in Wādis and have more permanent houses in the Gaon. Sometimes a Wādi is a settlement of a particular caste which by the nature of its occupation may need a larger space than is available in a gaon. In the eastern parts of the Satara district many villages have Banagar-Wādis a few furlongs away from the main village. The Banagars are shepherds who need large compounds near their houses for their mixed herds of sheep and goats. It also seems probable that this is an immigrant element which has made a separate settlement near a village with the consent of the villagers. In the same way there are Rāmoshī-wādis i.e. hamlets where only the Ramoshi live. These people live on semi-barren stony uplands, practice an indifferent agriculture, work as field-labourers and also

5. The double vowel is to be pronounced as in the English word 'soon'.

6. Y. S. Mehendale, Wādi-Names of the Ratnagiri District,' *Bulletin of the Deccan College Research Institute* (Poona), Vol. VIII, Nos. 3-4, December 1947, page 404.

live on hunting and petty pilferring. They were counted among criminal tribes. Wadis are called generally after a clan-name or after a tribe or a caste. Vagh-wadi, Shinde-wadi, Kamat-wadi are names of the first type, Banagar-wadi, Ramoshi-wadi, Brahman-wadi are of the second type. Sometimes the wadis become as populous as the old village to which they belong and attract craftsmen and merchants. Then there is great rivalry between the gaon and wadi. We saw examples of such rivalry in our survey of villages in a Community Development Block near Kolhapur City. In many areas in Maharashtra, owing to irrigation works which have made it possible to grow sugar-cane and have sugar mills, tiny Wadis have become prosperous Gaons. The Wadi originally is a cluster of hutments belonging to one family or belonging to two or three families whose fields lie in the immediate neighbourhood. Sometimes these are temporarily inhabited during the sowing and the harvesting season for facility of work in the field and the necessity to guard the crop. If the fields are in rich soil needing work all year round, with perennial water supply —conditions fulfilled in the case of irrigated lands—the Wadi grows soon into an independent village and tries to get itself acknowledged as such by the revenue and survey departments.

Sometimes when the population is growing and there is available land for new settlement and the habits of the people are semi-nomadic, an oiginally compact village splits into different habitation areas. Recently I came across such a village in the jungle tract of the Shrikakulam district of the Andhra-pradesh. The village is called Devanpuram (See Fig. 6). The original village was a settlement of two tribes, the Jatapu and the Savara. The Savara went a few furlongs away and had their own settlement. The Savara settlement split and one part has gone about a mile away over the hills and has a settlement there. Devanpura

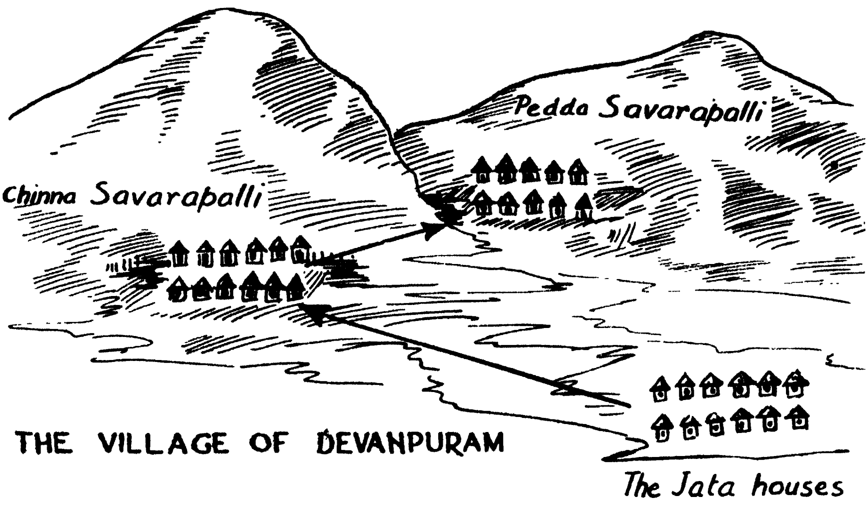


Fig. 6

is thus an Oor with three Palli—(1) a Jatapu palli, (2) a small Savara palli called Chinna Savara palli and (3) a bigger Savara palli called Pedda Savara palli. This split has occurred since the last survey. If they remain in their present situations, the three parts may be acknowledged as three separate villages by the time the next survey is made. In the same area there are separate villages with the same name but separate headmen; for example the villages called 'Gondi'. The two villages are within a mile of each other. The one near the road as is usual is Jatapu-Gondi and the one nearer the hills and a little more inaccessible is the Savara-Gondi. There is thus a tendency for separate tribes to live separately. The wadis in Maharashtra are possessed by all the three types of villages described in the beginning. The coastal villages have wadis removed a few furlongs from the main core as can be seen from the map of the village of Anjarla in Ratnagiri district reproduced in Fig. 7. Generally the most important and the most independent of these Wadis or wada is that of the fisher folk and in a recent study we found that in one village the Koli or Bhoi are successfully defying the authority of the main village.[7]

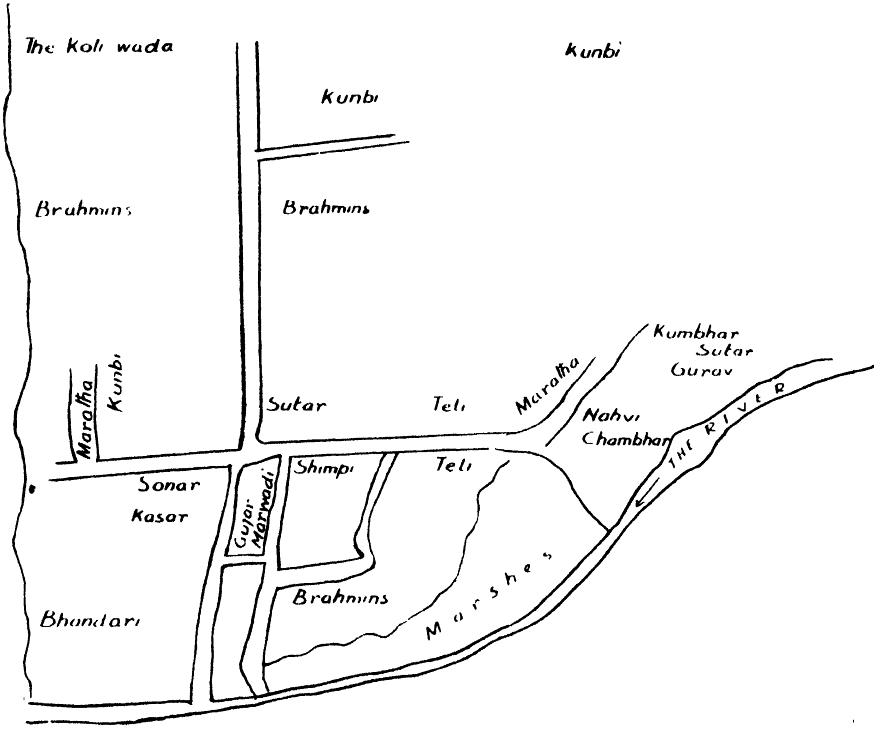


Fig. 7

7. "Inter-group relations in Rural areas" under the auspices and the help given by the Planning Commission of the Government of India. The village is 'Karul' on the west coast in Kolaba District.

As an example of a Deccan Village is given in Fig. 8 the map of Mhaswad a village in east Satara with half a dozen Wadis all round it. The bigness or smallness of a village is described by referring to the number of wadis a village possesses.

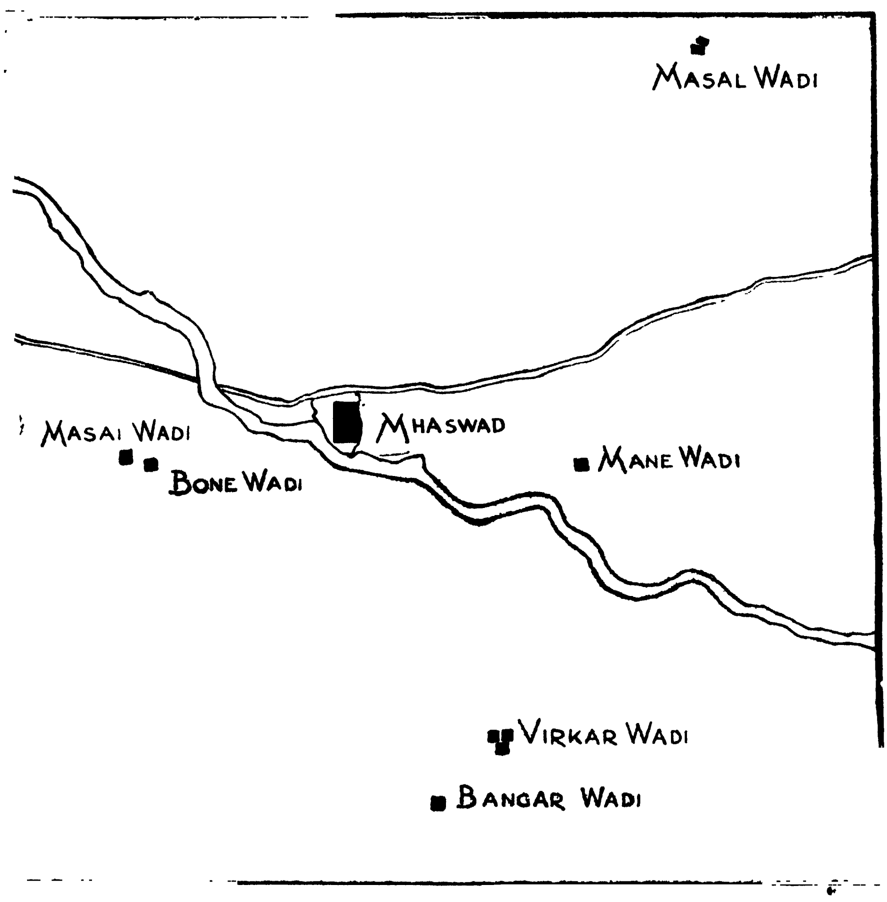


Fig. 8

Even the scattered Bhil villages have Wadis and I was told that the village of Mulgi in the Akkalkuva Taluka, West Khandesh District has as many as ten Wadis. I was unable to obtain a map of Mulgi but in other villages I found that some Wadis are due to new arrivals and are accretions, while others are due to splitting up of the original community from which a group goes and lives at a little distance. In this area the old Rajas as well as the British Government granted jungle lands to Bhils wanting to bring new areas under cultivation and one finds a great mobility among families which on the slightest pretext break up an old homestead and build a new one.

A village is thus an ever changing nucleus of habitations from which tiny clusters separate and remain attached or separate completely to form a new nucleus. The quality of being a 'gestalt' objectively and subjectively is thus a dynamic quality which makes it difficult to give a definition of a village which would apply to all villages. This difficulty will be more apparent when we look closer into the internal structure of a village.

The interrelated Gaon and its Wadis is one feature of the structure of the village. The Gaon proper is designated in many ways in the Marathi language. The most common word is Gāon-ṭhāṇa. This denotes the central nucleus and is differentiated from 'Shivār' or the cultivated fields belonging to the Gāon-ṭhāṇa. The "Gāon-ṭhāṇa is also called Pānḍhari or Pānḍhari āai (literal meaning - "the white mother earth") and is distinguished from the 'Kāḷi' (the black earth) which is the cultivated area. When a new village is to be founded, people generally choose the less fertile part for Gāon-ṭhāṇa, reserving the rich black soil for fields. The villagers collectively are also called 'Pānḍhari'. In a Panchāyat a judgment is given in the name of all Pānḍhari. A man can swear or take an oath by Pānḍhari. He must also beg forgiveness of the Pānḍhari if he is excommunicated and wishes to be taken back into the fold.[8] We have now to consider the arrangement of houses, public utilities and temples etc. in this area called the Pānḍhari.

Most of the villages have boundaries which are marked by some kind of stones or trees or streams. Sometimes there are temples of Bhairi or Bhairobā, Māruti, Devi (the mother goddess) etc. to mark and to protect the boundary. Though in the extremely scattered villages it is difficult for a casual observer to see the boundaries they are well-known to all the villagers. Among the many gods which the Bhils worship there is always the Hivra or Shivara Dev. Shiv or Hiva is the boundary and Hivra or Shivara Dev seems to be the guardian of the boundary. Among the Warlis there is a Hirva Dev[9] which probably is the same as the Bhils' Hivara Dev. There are a number of occasions in a year when the village boundary comes in for ceremonial treatment. On some occasions it is ceremonially crossed, on certain occasions a disease is driven out of the boundary, the bridegroom when he comes from another village is received ceremonially on the village boundary by the bride's people and in the villages of northern India there is an interdiction against marriage of people whose villages have a common boundary (seem-semnā Bhāichār). Among some primitives the village boundaries are fixed by the priest and then people start building houses. Among many semi-nomadic primitive agriculturists a village may endure for as few as three years. When the soil round about is exhausted the whole village moves off to somewhere else. Villages which were registered as existing at a particular place during the last elections are no longer

8. A vivid description of such an act is given in a recent novel "*Banagar Wadi*" (chap. 19) by V. MADGULKAR (Bombay 1955).

9. K. G. SAVE, *The Warlis*, (Bombay, 1945), p. 50.

there.[10] Whether the villagers founding the new village carry the old name and adhere to the old plan I have not been able to find out. In the plains the villages are generally permanent and of long standing and hundreds of epigraphic records have shown that villages with the same boundaries have existed for over a thousand years.

A village is made up of several houses and several families and different caste or tribal groups. But I have had occasion to see what might be called a one-house village and several ' one-family ' villages. While walking from Valasna to Dharoi in north Gujarat we came across a small plain surrounded by bleak hills. There was some agriculture and but one hut. Our guide told us that it was a village with one house. In Maharashtra there are a few villages called ' Eklahare ' and I am told that this word may be derived from Ekala + Griha meaning "only one house."[11] Recently I had occasion to see a village which seemed to be made up of one long hut only. It was called Karraguda and belonged to the Savara tribe. The one house was a rectangular structure some twenty feet by twelve with one roof; it turned out however to be three houses under one roof with three doors and three rooms—a sort of one-storied apartment house. Later on I discovered that the Savaras generally built such long houses with one continuous roof which housed as many as twenty families. In this village the family was one small agnatic kinship group, so that it was a one family village. In Maharashtra there is a great variation as regards villages and the families they contain. For a particular caste there may be only one family (with one clan-name), for other castes there may be several families so that for one caste there is village exogamy while for the other castes there may be marriage within a village. In the south (including Maharashtra) there is no taboo against marriage within a village so that the important question is whether a village has more than one clan of a given caste or not. In Andhra and Karnatak I found that the villages on the plains had generally more than one clan-name among the various castes and that there were many marriages among the families in one village. Generally one clan is predominant and the majority of houses belong to families of this clan. Sometimes the village may be called by the name of the founder or his clan, a practice found among the primitives also. There are many villages called ' Mamidi ' in north Andhra. One village is called Vantal-Mamidi and I found that the majority of houses belonged to the ' Vantal ' clan of the Gaḍabā tribe. In Maharashtra also villages are distinguished in this way. There are on the west coast two villages ' Adhom '. One is called ' Bhāve ' Adhom, the other, ' Dāṇḍe ' Adhom. There are two Talegaons in Poona district one is ' Ḍhamḍhere ' Talegaon, the other is ' Dābhāḍe ' Talegaon.

The one-clan villages are peculiar in many ways. The sameness of clans prevents marriage as already noted. It involves the village into common mourning

10. In 1957 in the Chintapalli area (North-eastern Godavari drainage) this was the case.
11. Prof. Dr. Katre gave me this as a likely derivation.

when a person is dead. On such occasions the intricate inter-relation between a family, a joint family, a lineage and a clan comes to light. There is mourning and death impurity if a death occurs within a joint family or a lineage and apparently the same applies to a whole clan living in a village if the families or lineages have not been ceremonially separated. In Konkan there is a village called Mābhaḷe where all the Brahmin houses (some fifty and odd) belonged to a clan bearing the same name and of course to one Gotra. Death in one house meant death impurity for all. Everybody had to take baths, wash all clothing and not cook any meal. This entailed great hardship and the villagers wanted to 'split generations' - a process by which relationship for purposes of moruning etc. would be acknowledged for certain ancestry and not for others. Apparently this could be done only in a ceremonial way in the Shiva temple. This act was however inauspicious and nobody would come forward to do it. There was one old man who was without issue and the villagers desired him to perform this act and bring relief to the village but he refused to do it. Whether the village is still experiencing the same difficulties I have not been able to find out. In the South, multi-clan village is the rule. In the North, where there are no clans, villages are supposed to be peopled by descendents of one ancestor for each caste and there is strict exogamy. This exogamy applies even when people of separate ancestries and Gotras come and live in the village.

We have already seen how Savaras live in a row of houses which have a common plinth and a common roof and which look like one single house. The difficulty of defining what makes one single house and a cluster of houses is encountered again and again in an analysis of houses and their structures. There are different ways of arranging and building houses in which the house unit cannot be defined merely by the 'gestalt' as apparent to the eye but a reference is needed to internal structure, sometimes to the number of cooking places and separating walls and sometimes to families and lineages. The house-clusters of the Bhils have already been mentioned. The Betta Kurubas of Coorg and Mysore live in small settlements where the tiny huts are arranged in a rough oval with a large space in the middle. In this large space an open structure with a small plinth and a roof is erected and where the men gather for talk and smoke and where women do all types of work when the men are away. The huts are arranged in groups so that apart from the main entrance to the village there are small openings through which the villagers can go out. It is difficult to single out a dwelling lived in by a family. There is always a linear group of five or six huts. The arrangement of one such village is given Fig. 9.

At the entrance is a small upright post which is sacred. We had to take off our shoes there and enter the village bare-foot. The houses have no openings on the outside. All open on the central courtyard, Whether the whole village was a one-clan village or whether the house-clusters represented a clan I could not

unfortunately enquire owing to the work schedule in that particular trip where a wearisome hide and seek was going on between us and the Kurubas.

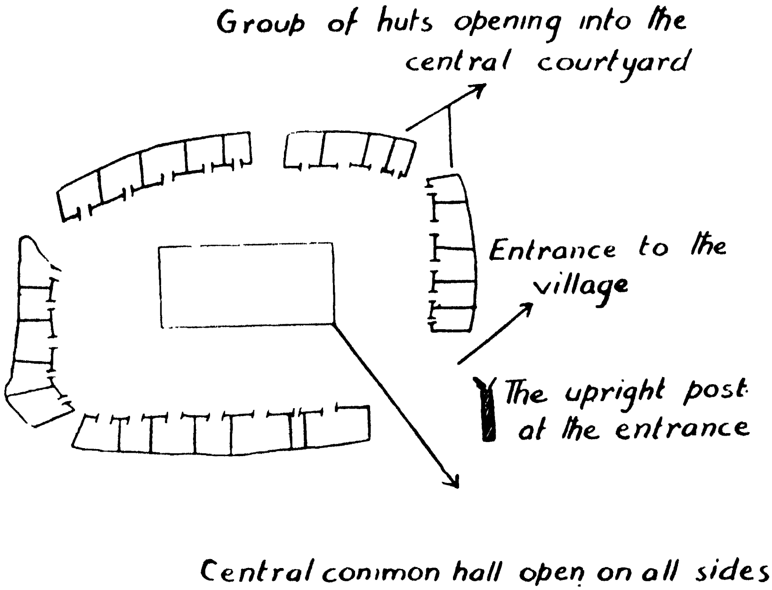


Fig. 9

A Betta Kuruba habitation area in Coorg.

This particular plan with houses all round and a central courtyard is found among many people in India. Sometimes the central courtyard is the space left after the houses are built side to side in a rough 3/4 circle or rectangle and the remaining side is walled. Sometimes there are houses owned by a single family round a sun-court with one opening to go outside. The main idea of this plan was followed by merchant-caravans travelling long distances in bullock carts. We are told in a Jātaka story how Buddha, who in that particular birth was a merchant, wisely guided the caravan and how he protected it every night by arranging all the carts in a circle with the men, the merchandise and the bullocks in the middle of the protecting wall made by the carts.[12]

This type of habitation need not necessarily belong to one lineage but sometimes it does and in north Gujarat it reaches its greatest complexity. Sometimes parts of a town are made up of composite dwellings of this particular type, sometimes whole villages are built in this way. I saw this house-type and arrangement

12. Appanaka Jataka.

of houses first in Baroda.[13] The houses are grouped along two sides of a blind alley and each house unit is a miniature representation of the blind-alley and house-groups. The blind alley is called Poḷ and the individual unit is called Khadki. This nomenclature however is not universal. Sometimes the whole complex of houses goes by the name of Khadki. The Navghar Poḷ (the Poḷ with nine houses), Moṭi Khadki (the big Khadki) etc. The sketch below shows how the houses are arranged.

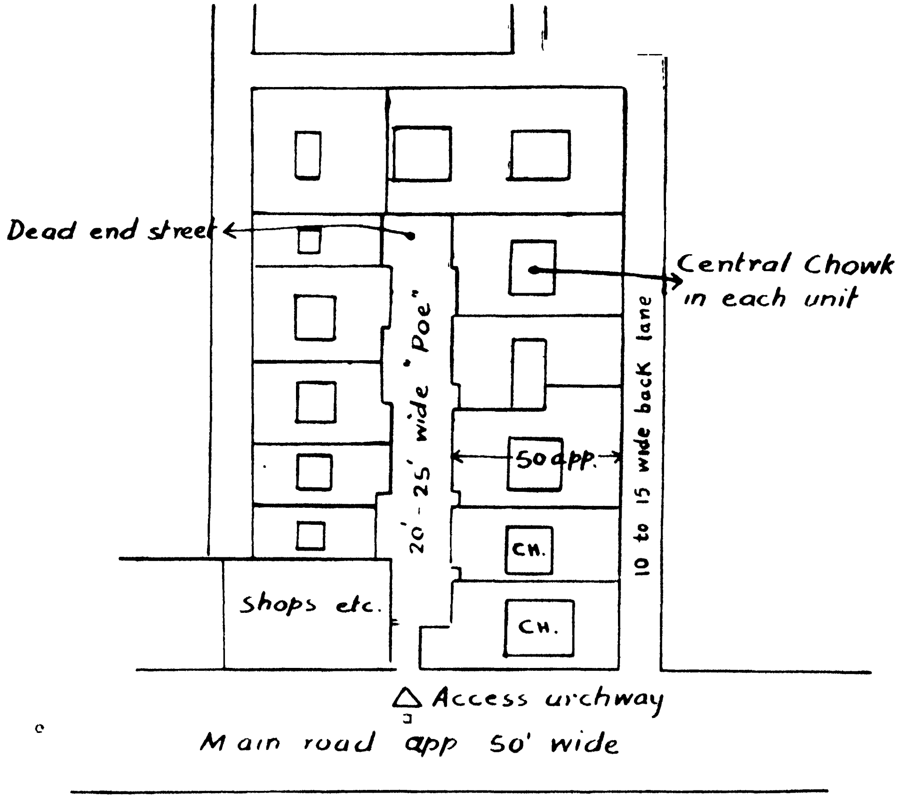


Fig. 10

In this sketch of a Poḷ in Baroda we find that thirteen houses are arranged round a blind-end alley with a width of 20 to 25 feet. All the houses open on this narrow street called the Poḷ which opens on the main road about 50 feet

13. My grateful thanks to Prof. I. P. Desai of the Department of Sociology, Baroda University for bringing this house type to my notice. He took me for inspecting such houses in Baroda. My sincere thanks to Shri M. B. Achavai, Architect and Lecturer in the the Kalabhuvan for the sketches reproduced here.

wide. The houses had originally no back entrance, only a window set high in the back wall about 8 to 10 feet above the ground level. We inspected many such Poḷs in Baroda, the largest of these is called AHMADABADI Poḷ, (i.e. the Poḷ of Ahmedabad) (fig. 11). There are 124 houses in this complex in four rows of 31,33, 27, and 33 respectively. Two double rows face each other with two broad blind-end streets while there is one narrow street in the middle of the houses which are back to back. At the back of the two end rows are also narrow alleys. These narrow alleys (three in number) at the back of the houses are called Vada and the two broader streets on which the houses open, are called "Sheri". One Sheri is called " Levā Sheri " and all the houses opening on it belong to people of the Levā caste while the other street is called the Kaḍvā Sheri and all the houses belong to the " Kaḍvā Caste. " The whole complex of blind alleys opens on to a broad main road called Rao Pura Road. As stated above none of the houses had originally a back entrance. They all had windows set high in the back wall. Some of the house owners have cut doors in the back wall in recent years so that they have access to the Vada at the back. The people in such Sheri belonged to one caste only ; whether they represented a bilateral kin-group or a unilateral exogamons kin-group I was not able to determine.

The smaller Poḷs or Khadkis however do represent an area where agnatic kin live though some of the houses were sold out by original possessors to strangers and some houses were let out to outsiders. The word Poḷ is given a Sanskrit form Pratolika. It might be Sanskritisation of an originally non-Sanskrit word. The oldest Poḷ in Baroda seems to be a place called Premanandni Poḷ. Premanand was a Gujarati Poet who lived in 1644-1734. There might be descriptions of older Khadkis or Poḷs, but I did not come across them.

The word Khadki occurs as *Khadakki* in Hemachandra's Desi-nāmamālā where he gives its meaning as " a small door. " In Desi-sadda-sangaha (Forbes Gujarati Sabha 1947), the meaning is given as " a small door " or " a covered-secret-door ." It also occurs as Khadakkia in a Prakrit Drama Karpurmanjari by the poet Rajashekhara (9th century A.D.)

Hemachandra's illustrative verse says that " a girl stepped out quietly out of a Khadakki being given the aid of the shoulders of her friend. "

On the other hand the word Pratoli (Apabhrasṭa-Śabda-Prakāsh, 1850) is given to mean " the main road. " Though the words Poḷ and Khadki are used almost synonymously today, it appears that Poḷ may have been the blind-end street on which all the individual doorways (the Khadkis) opened. One must remember that both the Poḷ and the Khadki have but one opening. The rough plan of Poḷ and Khadki is given below (Fig. 11). Where the Poḷ meets the main road it is closed with a big gate which always has a small door about a foot from the inside ground level through which people can step out into the main thoroughfare.

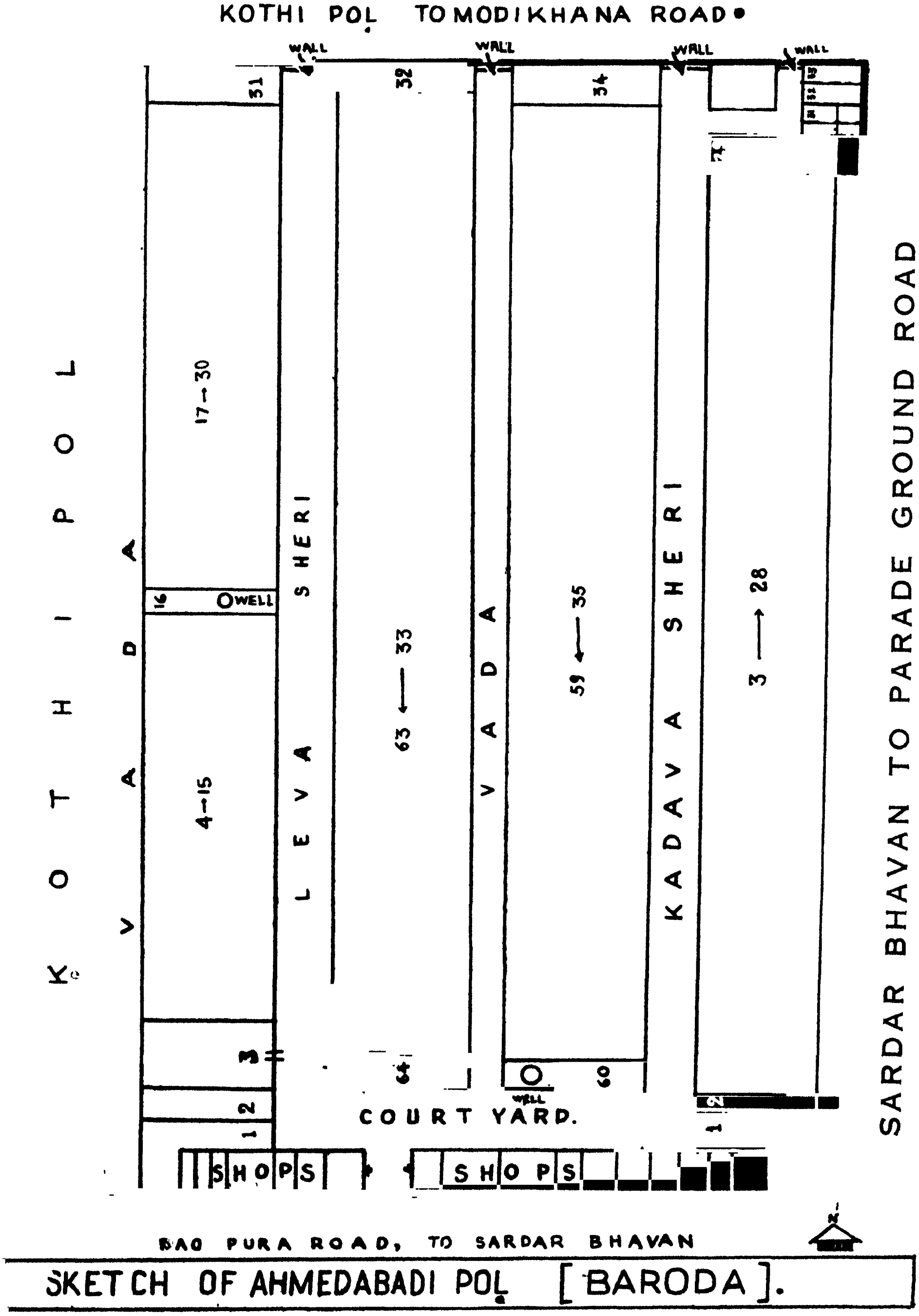

KOTHI POL TO MODIKHANA ROAD
WALL
KOTHI POL
VADA
LEVA SHERI
VADA
KADAVA SHERI
SARDAR BHAVAN TO PARADE GROUND ROAD
17→30
4→15
63←33
59←35
3→28
WELL
COURT YARD.
SHOPS
SHOPS
RAO PURA ROAD, TO SARDAR BHAVAN
SKETCH OF AHMEDABADI POL [BARODA].

Fig. 11

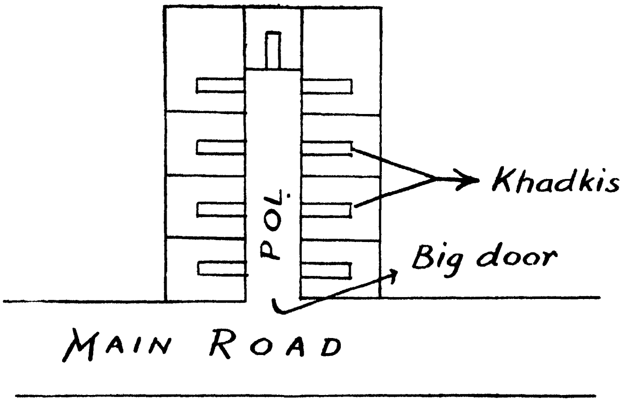


Fig. 12

In Bhadoch and other areas where there is the danger of river floods inundaing the houses the Khadkis are built about three feet higher than the road level and can be entered by mounting a few steps or a sloping ramp. I saw some Khadki houses in Baroda in the Ahmedabadi Pol whose main entrance was about two feet from the ground and the only means of stepping down was a small stone-slab stuck into the wall which looked more like an after-thought than an original feature of the house.

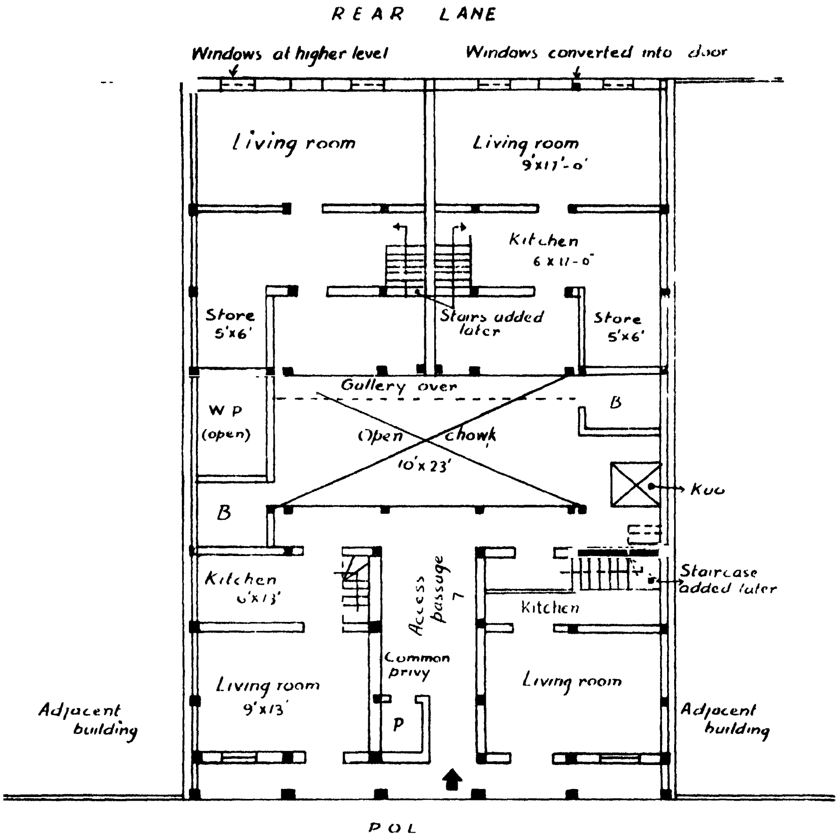
If the doors of individual houses leading to the Pol were of the type described above, then Hemachandra's description of a maiden needing the support of her friend's shoulder to step down noiselessly seems to be apt and realistic. I have, however, not seen a *whole* Pol with such Khadki entrances at the present time.

The details of the " Khadki " must be described as its extent may range from a single dwelling to a complex of dozens of houses and thus represent a whole big habitation area.[14]

A " Khadki " is entered through a narrow passage which opens out into a narrow courtyard on the two sides of which are two houses. Generally a Khadki is a two-storied building so that the complex contains four houses, sometimes six houses or eight houses depending on the situation of the narrow access passage and the sun-court.

The plan (Fig. 13) given below is that of a house with central passage and court. The court has often pillars which support a narrow space in front of the front rooms on the ground and first floors.

14. At present the word " Khidki " is used in Gujarat, Maharashtra and Karnatak (Kitaki) for a " window ".



DETAILED PLAN OF ONE KHADKI UNIT — SCALE 8' = 1"

Mr Shroff's House (Navi pol)

Fig. 13

We find here that the houses 1, 2, 3, 4 are so situated that each of them has access to the sun-court in the middle. The two houses in the front, 1 and 2, have light from the central Pol in which this particular Khadki is situated while houses 3 and 4 have light from rear lane. Each house is divided into two main rooms, one facing the sun-court and the other the lane either at the front or the back.

The points to remember in this construction are :

(2) All houses open out on the central court only, which also has stair-cases for the houses on the first floor.

(2) None of the houses has any other exit except the door-opening on the sun-court.

(3) The rooms which are lighted from the front and the back lane have only windows set high in the wall[15].

(4) Two sides of such a complex have common walls, the whole lengh of the sides, with the neighbouring Khadkis.

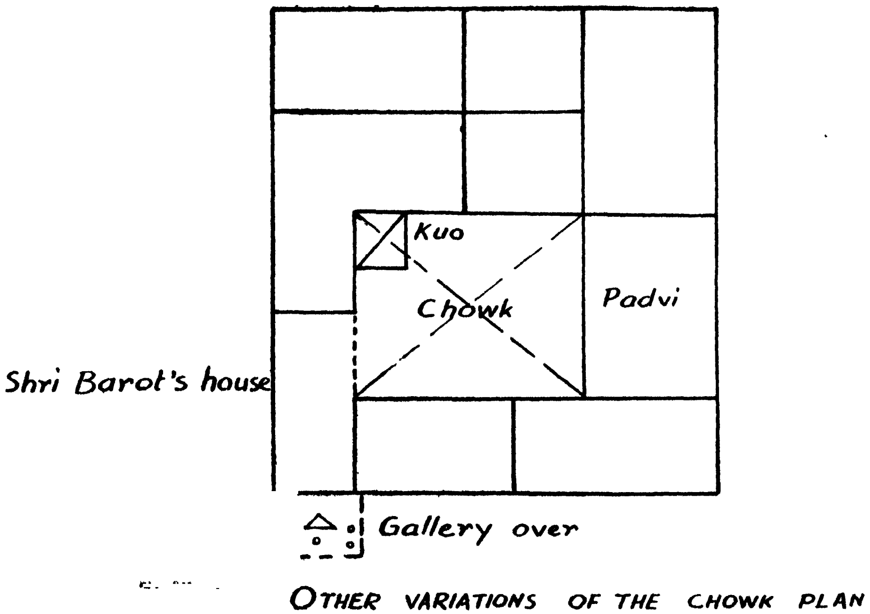


Fig. 14

The plans given in Figs. 14, 15 are only variations of the above plan inasmuch as the narrow passage leading to the sun-court is situated at one side and not at the centre. Sometimes some Poḷs or Khadki-complexes are connected by extremely narrow passages about three feet wide. These are called 'Khāncho'. In Marathi there is a word Khānch which means "a narrow depression" the word is used for a narrow notch made in wood by a chisel. The Gujarati word means a narrow passage between two houses. The Marathi expression Galli-Kuchchi is already referred to above.

Whole villages may be made up of such Khadkis standing wall to wall with narrow passages joining them. The plan of one such is given in Fig. 16. This whole complex makes a village. All the inhabitants (hundreds of them) claim descent from one ancestor. As such it is one agnatic Khadki or Wado and all the people

15. Now-a-days some houses have put in doors where originally there were only windows.

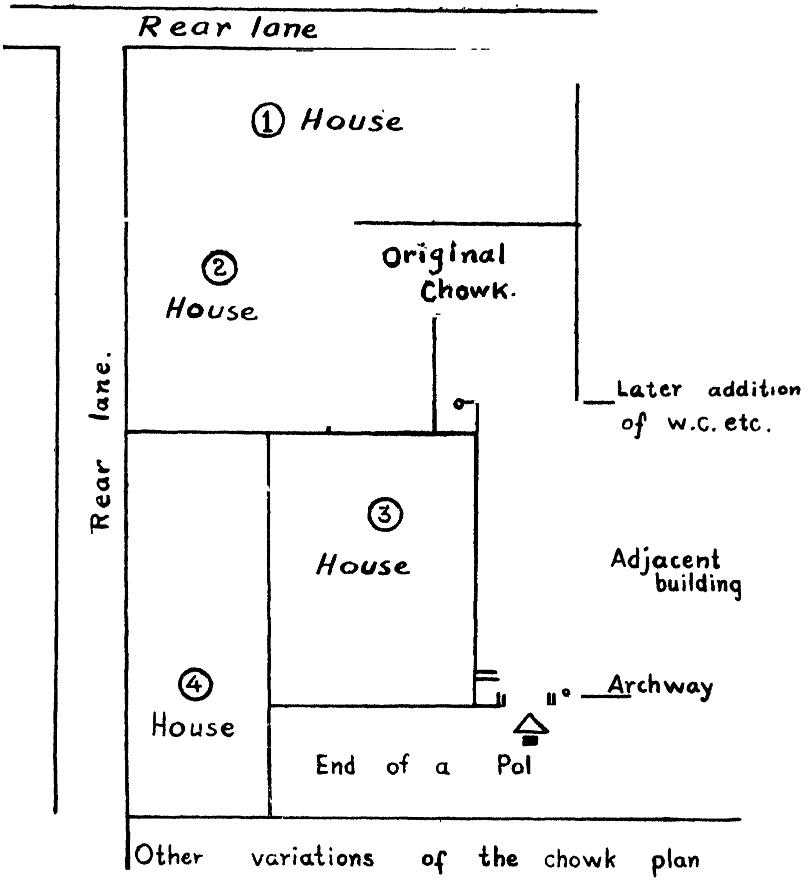


Fig. 15

marry outside the village. The road which leads from Vaso to Nadiad and which goes partly round this complex is not organically connected with the habitation area at all. The original Pols are extended so as to join the road. When the population could not be contained in the Khadki it built houses along the road. The name of the village is PALANA. All the lands are owned by the Khadki dwellers who employ Kolis and untouchables to till them. These and the untouchables live a little away from the Khadki-complex and whether they form part of the village-council I do not know.

This diagram shows clearly the differentiation between an internal communication system catering to the needs of the intercommunication between the Khadki-dwellers and the external communication system which connects all the inhabitants with the next village.

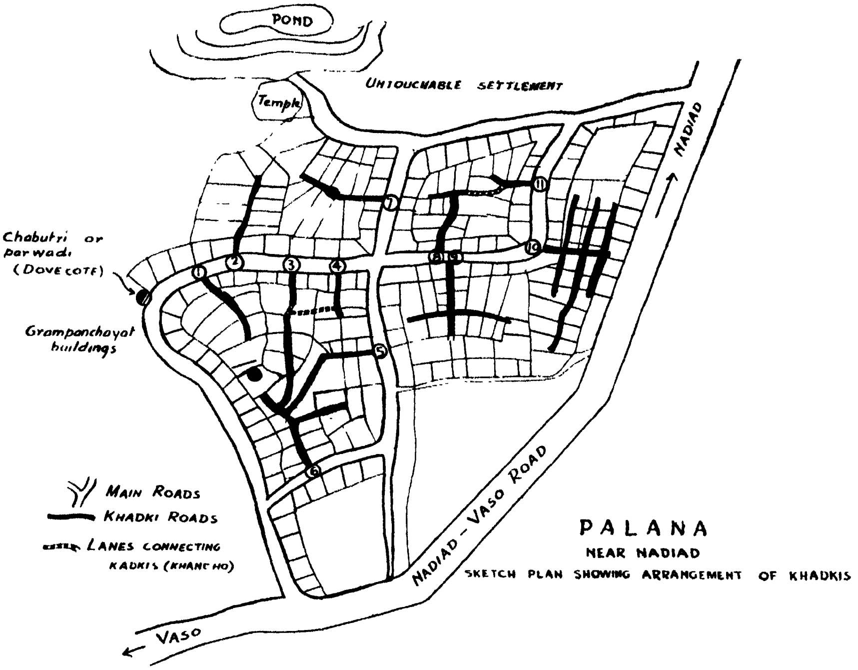


Fig. 16

In Maharashtra[16] where most houses have a back door there are words and phrases indicating certain functions of the back door. The two main doors of a house are called Puḍhil dār (the front door) and Māgil or Parsu dār (the back entrance). The phrase Parsākaḍe Jāṇe (literally "to go to the back-yard" meaning to go to defecate) also indicates that each house had access to an area at the back. The Khadki-complex has no back-doors, only windows and this fact connects itself well with a piece of advice given in certain verses.

The verse admonishes a householder to have ready a ladder at the back of the house.[17] The little window mentioned above became a way of escape when danger threatened the front entrance. Not having a back door seems to be a cultural feature not dependent on environment. Among the Bhils who build very spacious houses, the overwhelming majority of houses have no back door. I lived in a house which had a window high above the earthen cooking herd. This window could be reached from the inside of the house only by mounting with the help of a ladder a crude platform which is used for storage purpose. I was told by the Bhil who accompanied us that this window was for escape if danger threatened through the only door of the house, namely the front door.

16. In certain parts of Maharashtra houses have but one door—the front one.
17. Ghara pacchokadi rakhe chhidi.

As regards the planning of the Khadki-complex I have been informed by Mr. Achaval that a plot is marked out for the Khadkis and walled in, and each individual house is then built. If a plot is inherited by three or four people, the houses are built as and when it suits the owners and so sometimes after building some houses the rest of the area with the blind-end street in the middle may remain vacant as shown in the diagram below (Fig. 17).

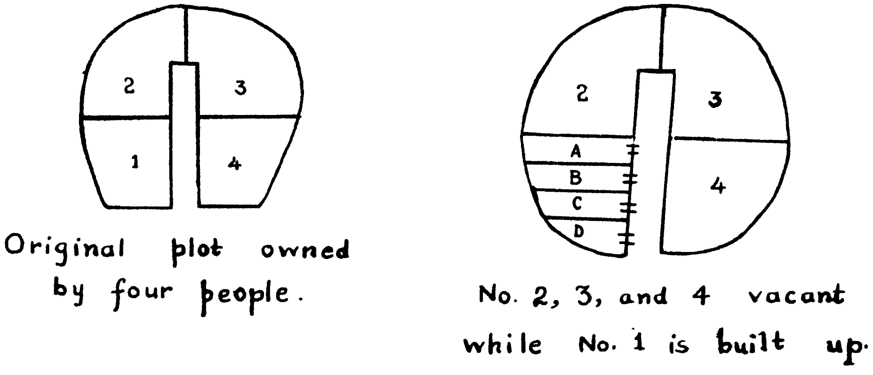


Fig. 17

In the diagram four Khadkis have been built up in plot No. 1 while others are vacant. This shows that a Khadki-complex cannot grow up by mere addition as other types of houses can. When the accommodation in one Khadki is finished people have to start finding new plots to build new Khadkis.

The Khadaki-complex can be understood by the analogy of the structure of a compound leaf given schematically below (Fig. 18). Each stem a, b etc. is a blind-end alley leading to a main stem x, while a^1, a^2 are sub-stems and are also blind-end alleys. Each leaflet is a Khadki with its net-work of veins which again represent blind-ends having no second outlet.

•
But the Khadki or Poḷ complex is never as regular as a compound leaf and its structure is further complicated by extremely small lanes called Khāncho connecting Khadkis, in the above analogy, each leaflet.

The sketch in Fig. 19 shows how three Poḷs namely Mama's Poḷ, Hirabai's Poḷ and Dosiwada's Pol each originally completely separated from the other and each having independent accesses to different streets were interconnected by narrow passages called Khancho.

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• As indicated above I have not seen such houses in any other part of India, though the houses and the habitation area fall under the general category of one-clan or one-lineage houses and villages.

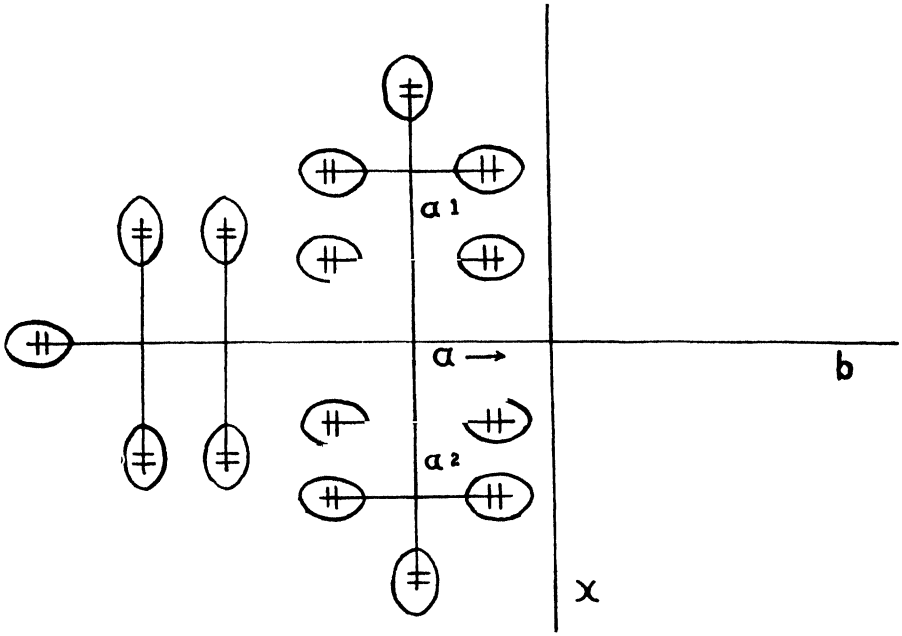


Fig. 18

In Marathi there is a word called ' Veṭāḷ ' which is used in the Nagpur area (Eastern Maharashtra) for habitation areas. A ' Veṭāḷ ' is an irregular complex of houses. It is called by the name of some family like Deshpande Veṭāḷ, Joshi Veṭāḷ and may contain houses of people who all belong to one patrilineage. The original ownership may be blurred by selling out to new owners or letting houses or parts of houses to people not belonging to the lineage. The Veṭāḷ consists of several separate houses. There is no regular alignment along a street or a road. The internal communication is effected through the narrow winding space left between various houses. Veṭāḷ means ' a circle ' and the words ' my Veṭāḷ ' are used in folk-songs in the same way as one would use the expression ' my alley '.[18] Sometimes whole portions of a town may be called Veṭāḷ but this latter usage is rare.

Veṭāḷ, Khadki etc. are examples of one-clan or one-lineage housing sometimes comprising a whole village.

Generally a village in India is however socially a far more complicated structure and the complexity is reflected in the way houses are built and roads exist. A village generally has more than one caste. In the North and sometimes even in

18. One line of a folksong I have recorded in that area, is " In my Veṭāḷ the fragrance of jasmine spreads everywhere. "

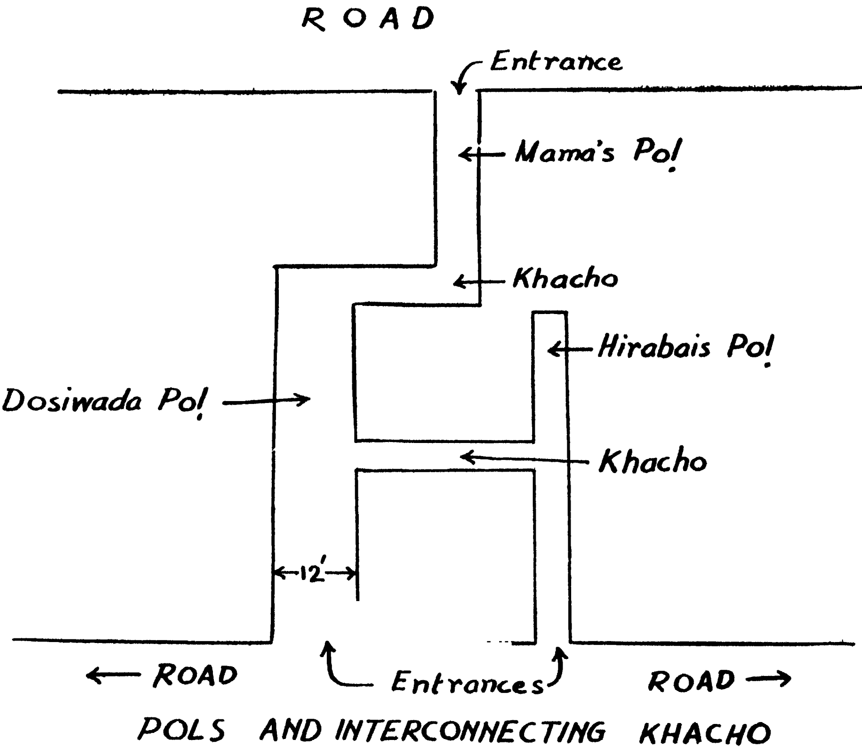
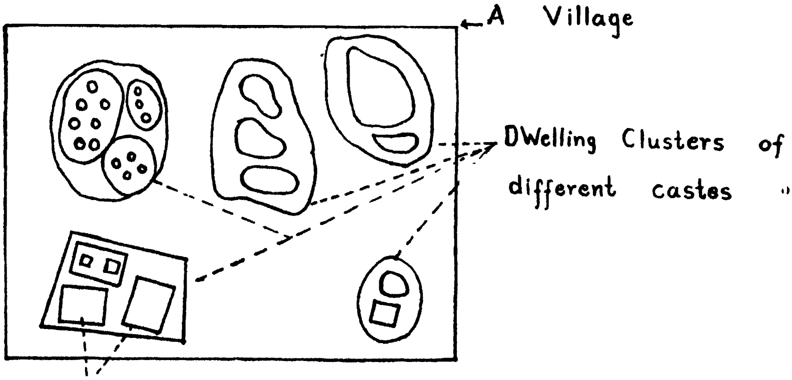


Fig. 19

Maharashtra there may be only one lineage of a caste, but generally in the North and almost as a rule in the Dravidian South, each caste in a village is made up of more than one lineage and clan. A map of a village will show almost invariably that the habitaion area of each caste is separated from that of the other by a greater or a lesser distance. A few castes may live in houses situated side by side but others live apart. The castes which are always separated from the others are those whose touch was supposed to pollute the rest—the so called untouchables. Their habitation area has generally a distinct name. In Maharashtra there is a Mahār-Wāḍā in almost every village. Māṇg is another untouchable caste which has its dwelling-cluster separate from the rest of the village and also from the Mahārs. The same is the case in Andhra-pradesh where the Mala live apart from the rest of the village. The Madigā live near the Mala but have a separate cluster of houses. The Maharwada or the Mala and Madiga Vidi are generally at the end of a village, hence the sanskrit name Ante-Vasi (living at the end) and the Marathi name Vesakar (living near or outside the wall of a village). The Kumbhars (potters) also live a little away from the rest of the village and their part of the village is called Kumbhār Vāḍā. Villages which have weavers in their population also

have a separate area where weavers live. If there are a number of Brahmin houses they have an area for themselves. The shepherds live so far away that their habitation area is termed a Wadi of the village.

This tendency to have separate sub-areas for habitation within a larger unit called a village can be explained in various ways and on different grounds like caste-hierarchy, ideas of impurity and pollution, the need of certain occupations to have room for carrying out the different processes needed for their craft. The first reason applies to the house complexes generally, the second applies to the distance found between the untouchable quarters and the rest, the third applies to castes like potters, brickmakers, weavers and dyers, shepherds, wool carders and blanket makers etc. To me it appears that there is an inherent tendency in the Indian culture to form separate groups and remain separate. The arguments listed above all strengthen this tendency and the phenomenon called 'caste', apart from its hierarchical structure, is the direct outcome of this tendency. The primary group is the large family, sometimes unilateral sometimes bilateral. This group extends into the caste. The family as well as the caste are based on territory. The smallest territorial unit is the area in which the house and the family land are situated, the largest territoral unit is that part of a linguistic area through which a caste has spread. Rarely is any area, small or big, in sole possession and occupation of a single family or a single caste so that we find in each such area a check-pattern of sub-areas belonging to families, clans, and castes. I have not seen anywhere either castes or tribes living intermingled. However tightly nucleated and crowded a village, the check-pattern of separate sub-areas was always there. Below is given a schematic representation of a village and its sub-areas which are further divided into smaller sub-areas belonging to families. (Fig. 20).



Dwelling clusters of different families or lineages.

A Schematic representation of a village.

Fig. 20

Sketches of certain villages are also given to show how this scheme works out in actual situations. (Figs. 21, 22).

The first is a sketch of a village called Shirtav in Satara district. It is a nucleated village of the type found usually on the Deccan plateau (Fig. 21). The fields are not shown. Only the habitation area (Gāon-ṭhān or Pāṇḍhari) is shown. The house clusters of Shepherds, Vani, Ramoshi, Vhalar, Mahar and Mang are separate with narrow lanes dividing each area. Within each area those who belong to one lineage have houses near each other. The Ramoshi all belong to one clan called Chavan. The shepherds belong mostly to the clan of Lubal but there are a few houses belonging to other clans. These are affinal relations of Lubal (mostly sons-in-law) brought to live into the village by the fathers with only daughters. Sometimes a widowed daughter comes back with her children and is given a house and land. Among the Mahars and Mangs also there are more than one clan. So except for the Ramoshi caste which has but one clan the village people of other castes can and do marry among themselves.

The sketch of the Konkan village (Fig. 7, p. 85) shows the division of the village habitation area into sub-areas belonging to castes and clans.

This tendency is seen even among the primitives. The Bhils are divided into endogamous sub-divisions. They have villages of mixed population where sometimes allied tribes like Dhanak and untouchables live. Each of these has a separate habitation area and within each area there are house-clusters belonging to different lineages. Below is the sketch of the village of Ghantani in West-Kandesh District, which shows these divisions (Fig. 22). Unfortunately I could not colle all the genealogies so as to make the relation between kin-groups and areasct clear but there are enough data to show that each caste or tribe lived separately and that within each caste or tribe the kin-group (mostly agnatic but sometime including a daughter's or a sister's husband) also lives in a separate clusters. The main clusters are Padavi, Dhanak or Hindu Tadavi, Vasave, Valvi; and the two untouchable castes of Mahar and Bhangi live side by side as there is but one family of each.

We found another village in the Chintapalli hill area of Andhra-Pradesh. The village of Rintada was made up of three habitation areas separated from each other by at least two furlongs, each having house clusters belonging to a separate tribe and called Veedi (Sanskrit Vithi = a road). One was Konda-Dora Veedi, another was Bagata Veedi and the third was Kammara Veedi. Throughout this area each tribe lives separately inside a village. The primitive untouchables called Paidi have always a habitation area separate from others.

How strong this tendency is to live in groups belonging to one tribe was demonstrated by chance at Koida, a village in Palwancha Taluka of Khammam District

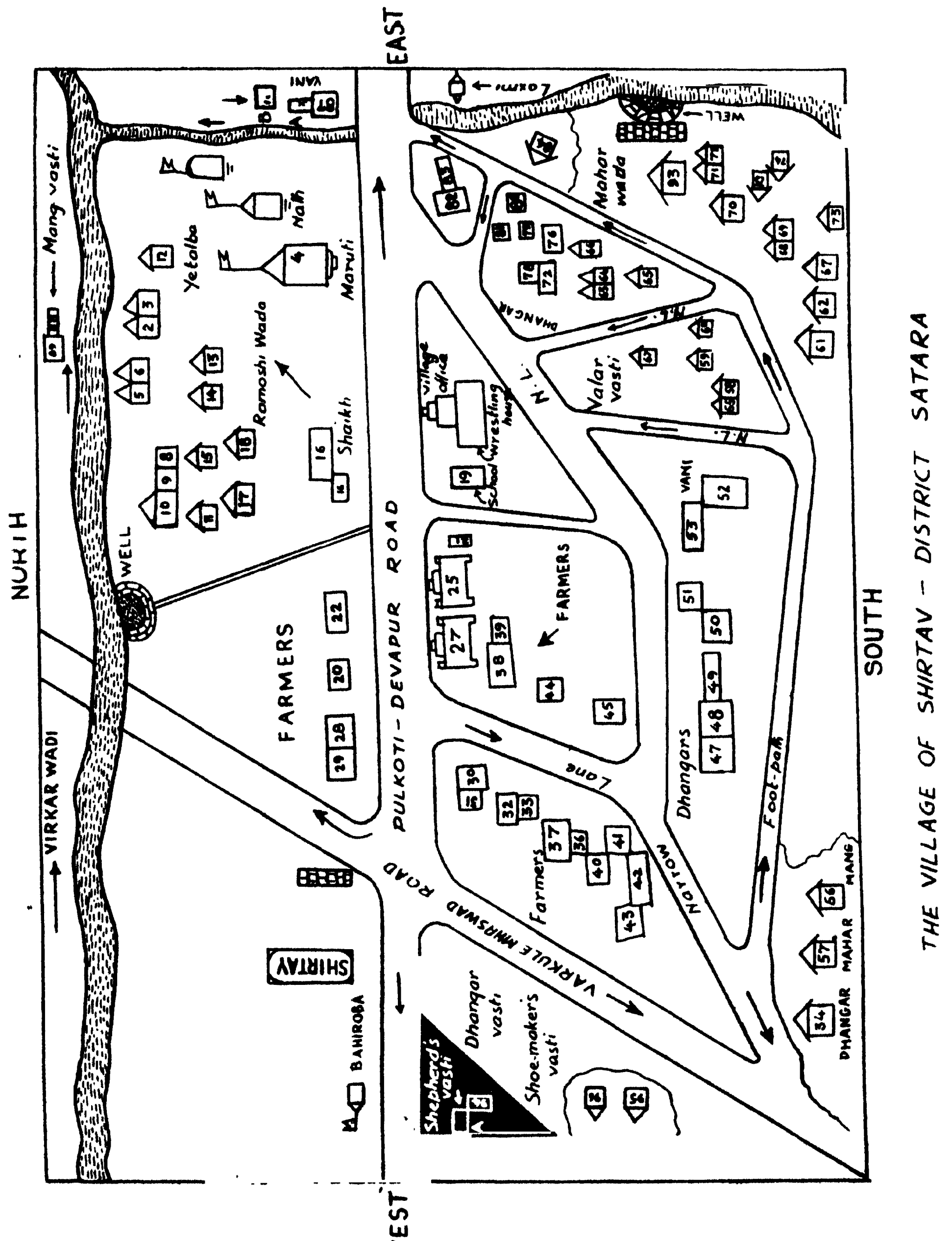

EAST
WEST
NORTH
SOUTH
THE VILLAGE OF SHIRTAV - DISTRICT SATARA
PULKOTI - DEVAPUR ROAD
VARKULE MHASWAD ROAD
FARMERS
Ramoshi Wada
Mahar wada
Valar vasti
Dhangars
Foot-path
Lane
Narrow
Shaikh
Maruti
Yetalba
WELL
VIRKAR WADI
Mang vasti
SHIRTAV
BAHIROBA
Dhangar vasti
Shoe-maker's vasti
Shepherd's vasti
Farmers
VANI
DHANGAR
MAHAR
MANG
Village office
Wrestling house
School

Fig. 21

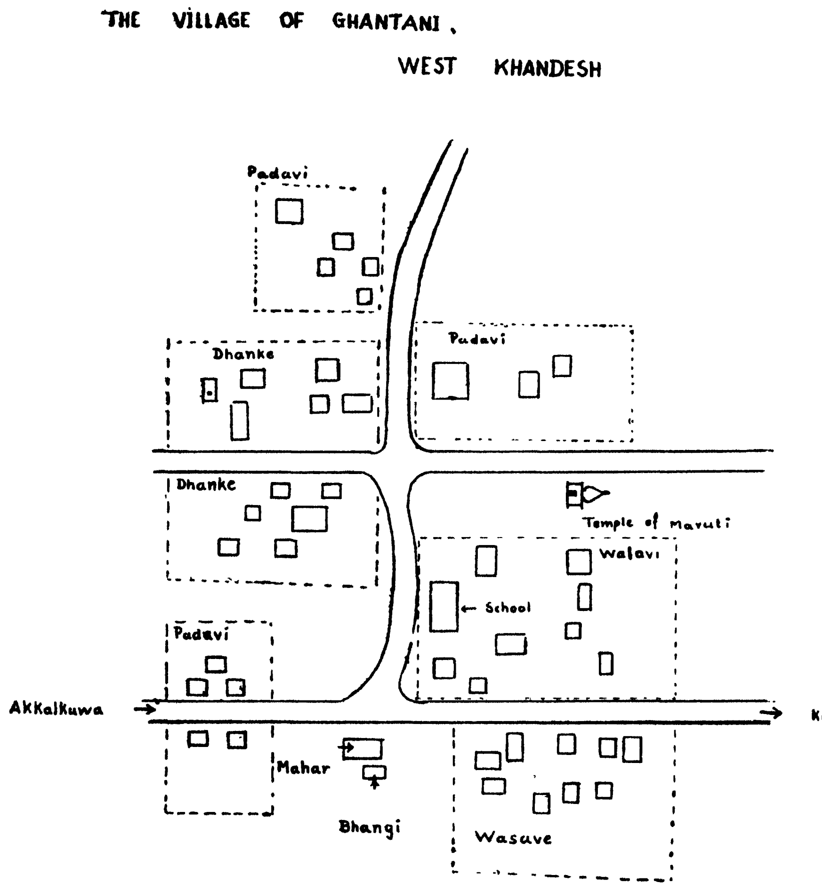


Fig. 22

of Andhra-Pradesh. The whole village of Koida, where Koya and Konda Reddi live, was completely destroyed by floods in 1953 and the Government welfare department helped the people build a new village under its supervision. The village has straight streets and cross-roads with about equal plots given to each family. (Fig. 23) The result is a village where houses look exactly alike and are arranged on two sides of two streets. A house to house enquiry about the name and the tribe of each owner revealed the fact, till then unknown to the Welfare Officer, that the houses in the villages could be divided into two habitation areas, one of the Koyas and the other of the Konda Reddi. The Officer had told me that plots were alloted to people as they came along without enquiring as to which tribe an individual belonged. This planned village is like no other primitive village except in this one fact of tribes living in separate groups, and having separate leaders. Sarappa-reddi is the headman of the Konda-reddis and Konnappa is the headman of the Koya.

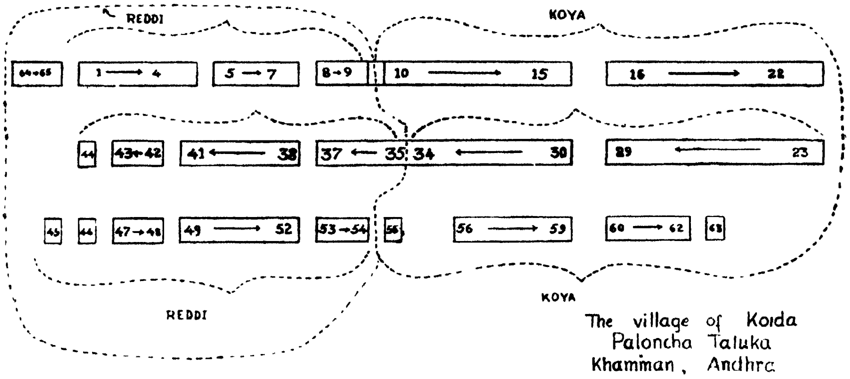


Fig. 23

As I said in the beginning this is but a preliminary study of habitation areas and their sturcture. The way people build their houses, the way they group them, the way arteries of internal and external communication are formed would lend itself to ecological and anthropological analysis and may help to establish environmental-geographical as well as cultural zones and by linking with social institutions like the family and the caste will help to understand the meaning of the social institutions. It will perhaps reveal the fact that the unity or uniformity of Indian culture is based on tiny check-patterns fitted one into the other rather than a uni-colour homogeneity.

A PANCANMUKHA PIECE FROM POONA

By

S. B. DEO

The specimen under study owes its discovery to sheer chance, as it was found entangled in the roots of a big bunyan tree which had to be cut under the road-widening scheme of the Poona Corporation. The workers cutting the tree handed the piece over to the police in the nearby Swar Gate headquarters. It is still in their custody.

This *pañca-mukha* piece is made of greyish-black trap. Its total height is 28·5 cms. The base is flat and 8 cms. in width. Its sides flare out up to the main cylinder around which are the five *mukhas*, three of which can be seen from any angle. The figures bear on their heads tapering spiral headgears (*jaṭāmukuṭa*), which in the case of all the five faces tilts to the right (or to the left hand side of the figure). The top of the specimen has a depression nearly 5 cms. deep and 13 cms. in diameter. The height of the *jaṭāmukuṭas* in all the faces in 12 cms., while its maximum breadth comes to 10 cms.

All the five faces are exactly alike and are completely devoid of any ornamentation (as they should be). Their countenance shows a grave appearance as if immersed in meditation. The eyes are biconvex in outline and definitely large for the face. The profile in the case of two faces shows a straight forehead, a sharp nose, thin lips and chubby chin. In the case of the other three faces, the noses are worn out and hence appear snub. The ears of each face are shown separately and are long. The cheek portion is plumpy. The forehead shows the outline of the hair which have not been covered by the nine-spiralled headgear.

The absolute lack of ornamentation, the exact likeness between all the five faces, the truncated conical base and the depression or cavity at the top above the headgears present a good material for interpreting the iconographical elements of the specimen.

The most likely interpretation is that this piece is a variety of the *pañcamukha liṅga*. The truncated tapering base of the piece was possibly meant to be inserted in a hollow pedestal or a *yoni*. The spiral headgear may represent the *jaṭāmukuṭa*,

* I have to express thanks to Dr. M. S. MATE and Shri Z. D. ANSARI for help in the preparation of this article and photography.

very characteristic of Śiva. The cavity at the top was possibly used to receive the hemispherical top portion of the *liṅga*. For this, one has to presume that the stone selected was insufficient to include the *liṅga* outline. Hence the craftsman preferred to carve out a depression in which the *liṅga* stone was placed. Another possibility is that the depression was executed to receive an image of the Gaṅgā. It is also likely, however, that the depression was meant to receive water symbolising the presence of the Gaṅgā.

The *pañcamukha liṅgas*, so far published, however, do not show any specimen like the present one which has all the five faces around the cylinder. The traditional canons of a *pañcamukha liṅga* lay down that the four *mukhas* should face the four directions and the fifth—that of *īśāna*—should face the *ūrdhva* direction.[1] Another point worth notice is that the *mukhaliṅgas* generally show the convexity of the *liṅga* outline over and above the top of the *mukhas*. The 'third eye', though not necessarily an attribute on which one can recognise a Śiva image,[2] is totally absent on every face of the Poona specimen.[3]

Another possibility is that the piece might have been used as a lamp-post, the conical end of the piece being possibly inserted in a vertical stand. If so, the depression at the top might have been used to place a lamp in it. There are, however, no indications—like soot-marks, wick-burnt region, etc., that oil was placed right into the depression. In this case also the propriety of the five *mukhas* remains unexplained. Moreover, no lamp-posts of this variety have been reported from anywhere so far. Therefore, the identification of the specimen as being a *liṅga* appears more possible.

Although the profile of the two faces that are intact is elegant, the execution of the whole work, especially the outsize eyes, the broad nose, the lack of decoration and the very neat and disciplined *jaṭāmukuṭa* that closely resembles a medieval Muslim headgear—in particular that of Shivājī as shown in a number of pictures—indicates the 17th-18th century as its period. An image that conforms to no iconographical rules and still so obviously is an icon cannot be assigned to any early period. The close similarity of the faces with a number of late Maratha images, especially *vīragaḷs*, etc., is striking.

1. Khare, G. H., *Mūrtivijñāna* (Poona, 1939), pp. 89, 118.
2. *Ibid.*, Fig. 32.
3. For specimens of *mukha liṅgas* see, Khare, G. H., *op. cit.*, figs. 32, 33, 34, 35, and pp. 89 ff; Rao, G. N., *EHI.*, Vol. II, pt. I, (Madras, 1916) pl. I, II, III, VII, X, and XI; for specimen from Kanauj, see Dikshit, R. K., '*Kanauj*' (Lucknow, 1955), pls. 4, 5 and 6 (7th Century A.D.).

So far *mukhaliṅgas* have been reported from Bengal, U.P., Madhya Bharat, Marwar, Bombay and Andhra-Karnatak; outside India they occur in Java and Bali. Their chronological limit ranges between 1st century A.D. to the latter half of the medieval period.

The above observation and the proposed date are further corroborated by the find of a similar specimen in a recent visit by the author to Ghṛṣneśvara temple — near Ellora— built by Ahilyabai Holkar. There, in the western porch of the temple is a figure of a *kīcaka* supporting a pillar. The head-dress of the *kīcaka* exactly resembles that of the *pañcamukha* piece from Poona. For it is a spiral headgear tilting to the right.

It is, therefore, most likely that this *pañcamukha liṅga* is a cruder form of Śiva *liṅga* executed by a craftsman who thought it fit to carve a piece which was out of the grooves of traditional canon as it betrayed contemporary influence.

(a) Front view (b) Top view

A PAÑCAMUKHA PIECE FROM POONA

SPIRAL-HORNED ANTELOPE MOTIF IN THE CHALCOLITHIC POTTERY OF NEVASA AND WESTERN ASIA[1]

By

Z. D. ANSARI

Nevasa is a taluka place on the river Pravara in Ahmednagar district, where excavations during 1955-56 conducted by the Deccan College Post-graduate and Research Institute, Poona, on the Ladmod mound[2] have brought to light two potsherds in the lowest layers of the Chalcolithic period. They show naturalistic spiral horned antelope figures painted on them. The probable shape of such a vessel, when reconstructed[3], would be a bowl with concave sides and rounded base—one of the characteristic shapes of Jorwe culture.[4] The antelopes are painted between the lip and the carination.

The figures of antelopes are solid and painted in black colour over a matt crimson-red wash. Sherd No. 1 shows different parts of two antelopes. The figure on the right side shows the rear part of the animal with curved tail, straight back and a spiral horn, while the figure on the left side shows the neck and the head with parts of the horns. The anatomy of the painted figures on both the sherds from Nevasa (Nos. 1 and 2), suggests that the legs and the belly also might have been drawn equally proportionately as in the extant remnants on the sherds.

A few sherds, in some cases with naturalistic, in others with almost stylized and conventionalised antelope figures painted on them, have been found from five sites in India and several sites in Western Asia. The comparison of painted antelope motifs from India in general and Nevasa in particular, with those from Western Asia is confined merely to the figures.

Painted spiral-horned antelope motif occurs on pottery on the following Indian Chalcolithic sites. Nevasa (Nos. 1 and 2); Rangpur, Saurashtra[5] (Nos. 3-11);

1. I am grateful to my Guru Dr. H. D. SANKALIA for giving me guidance in writing out this article.

2. A short summary of the results of these excavations will be shortly published by H. D. SANKALIA and S. B. DEO in the *Poona University Journal.*

3. DEO, S. B., and ANSARI, Z. D., Some Technical Aspects of Pottery Drawing, *BDCRI*, Vol. XIV, No. 2, pp. 123-131.

4. SANKALIA and DEO, *Report on the Excavation at Nasik and Jorwe*, 1950-51 (Poona 1955), Fig. 65.

5. *BDCRI*, Vol. XI, No. 1, pl. XVII, Nos. 6 and 7. *ASI*, *AR*, 1934-35, pl. XV, No. 20 cl. *Indian Archaeology, A Review* (1954-55). pl. XII B.

Nagda, Madhya Pradesh[6] (Nos. 12-14); Harappa, Punjab (Pakistan)[7] (No. 15), and Navda Toli[8] on the southern bank of the river Narmada (Nos. 16-19), Madhya Pradesh.

The style of painting the antelope motif on the Indian sites mentioned above is different at each site. Three distinct styles of painting the gazelle motif, so far known, have been adopted by the prehistoric potters.

1. Silhouette method—as adopted by Nevasa (1, 2), Rangpur (3-11), Harappa (15), and Nagda (14) artists.

2. Empty outline method—as adopted by Navda Toli (16-19) people. By this method the body including the neck was drawn in outline and the space was left blank.

3. The third method, though in outline like that employed at Navda Toli, had the space, created by drawing the figure in outline, filled with dots. This method was adopted by Nagda (12-13) people.

The antelope figures on Rangpur sherds, though painted in solid black colour over a matt crimson-red wash are conventionalized. The relative proportions of different parts of the body have not been maintained. In some cases (Nos. 7, 9 and 10), the belly and the legs are equally thick. The example from Harappa (No. 15) is peculiar in having groups of three spiral horns on either side and showing a prominent eye.

The antelope motifs from Nagda are shown standing but in a frightened posture (Nos. 12 and 14). The chest and the neck portions are thin as compared to the body (Nos. 13 and 14), while in the third example (No. 12) the waist is thin just like that of a dog.

All the figures from Indian sites, so far known, except those from Nevasa, are conventionalized. Further the figures face the right side, with the exception of only two examples (Nos. 18 and 19) from Navda Toli, where they face the left side. The spiral horns are nearly parallel to the antelope's back in all the examples except those from Harappa. Thus no Indian figure bears any resemblance to that from Nevasa.

The figures that come nearest to those from Nevasa are from Egypt.[9] The only difference between the two motifs is that the horns of the antelope are more or less parallel to the body. Nagda antelope motifs (Nos. 12 and 14) are similar

6. *Ancient India*, No. 9, p. 100.

7. VATS, M. S., *Excavations at Harappa* (Delhi 1940), Vol. II, pl. LXII –69.

8.* Pottery from this site is being studied by Dr. SANKALIA.

9. Jacques De MORGAH, *La Prehistoire Orientale* (Librairie Orientaliste Paul Geuthner-Paris 1926), Vol. II, p. 278. PETRIE, W. M. Flinders, *Prehistoric Egypt* (London, British School of Arch. in Egypt—1920), pl. XXII.

in nature to those from Tepe Sialk[10] (Nos. 12-25) in Iran. All the figures from Sialk are in a frightened posture, and are painted in silhouette. The parallel style of depicting antelope motif from Nagda (No. 12 and 13) can be traced at Tepe Giyan[11] in Iran (No. 26), where not only the body but even the horns are drawn in outline. At Samarra[12] (No. 33) and Boughaz[13] in Iraq (Nos. 29-32 and 34-36), antelope motif has been used as a moving design in several styles. Khafajah[14] (Nos. 42-46 and 48) and Agrab[15] (Nos. 37, 38 and 40), in Iraq present examples that are painted in Silhouette method.

So far we have noted that all the examples from India and a majority from Western Asia were painted in monochrome, that is, in black colour only; but sherds from Khafjah (Nos. 41, 47 and 49) and Agrab (No. 39) are in polychrome. Their body portions are in outline like the Indian examples (Nos. 12 and 13) from Nagda, and the spaces are filled with orange colour. All the figures from Khafajah and two from Agrab (Nos. 37 and 39) are painted on yellow ochre background.

It is at Khafajah and Agrab only that antelopes are depicted in their natural environments. At Khafajah (No. 41) the antelope is shown grazing near a bush. The row of fishes and a crane about to pick up a fish indicate a river bank on the Tel-Agrab (No. 39) sherd.

Attempts have been made to distinguish male antelope from female antelope. Such differentiation can be noticed at Navda Toli (No. 16), Agrab (Nos. 37 and 38), and Khafajah (Nos. 41 and 44).

Nearly all the antelope motifs, whether in India or in Western Asia, are painted with their faces to the right side; the exceptions, however, come from Navda Toli (Nos. 16-17), Khafajah (No. 41), and Boughaz (Nos. 31, 33 and 35) where they face to the left.

Some species are shown with their genitals. But no corresponding change either in horns or in size or in body proportions can be seen. Therefore, it is not certain whether the figures without genitals are the female antelopes. While those with genitals are certainly male, it is equally probable that this detail has been omitted in others and they represent no particular sex. Antelopes painted on Nevasa potsherds have their tail raised, which is a characteristic feature during the mating season.

10. Ghirshman, R., *Fouilles de Sialk*, Vol. I, pl. LXXXI, (Librairie Orientliste Paul Geuthner -1938).

11. Contenau, G., *Fouilles de Tepe Giyan* (Librairie Orientaliste Paul Geuthner -1935).

12. Childe, V. G., *New Light on the Most Ancient East* (London), fig. 58.

13. Braidhood, Robert J., *New Chalcolithic Material of Samarran Type and its implications J.N.E.S.* (The University of Chicago Press, Chicago, Illinois —1944), Vol. III.

14. Delougaz Pinhas, *Pottery from Dayala Region* (Cambridge University—1952) pl. 9, 10 and 13.

15. *Ibid.* —pls. 4, 11, 131a and e.

16. A. Radclyffe Dugmore, The Deer Family, Antelope and Gazelles. *Wild Life the World Over.* (Wise & Co., Inc. New York -1947).

Appendix

The reasons for designating the figures as antelopes may be summarised as follows :—

The Deer have solid horns or antlers grown. They shed each year (with the exception of the Indian Sambar), and these are branched more or less according to the species, and many of the does are hornless.

Antelopes have hollow horns, which as they grow (in nearly all the cases) make rings as evidence of their age. They are formed as body cord and are not shed.

Among the antelopes some species like Oryx and Nilgai carry straight or slightly curved horns, while the horns carried by Gazelles are ringed and 'S' curved, and grown by both the sexes. The antelopes having twisted spiral horns are as follows :—

A.—*Horns carried by both sexes* :

1. Eland.
   Horns twisted spiral, about 40 inches long.
   Found in Central and Southern Africa and West of Nile.
2. Bongo.
   Twisted horns.

B.—*Horns carried by males only* :

1. Kudu.
   Horns twisted and spiral.
   Found in Central Africa and Sudan.
2. Nyala.
   Horns twisted spiral about 30 inches long.
   Found in Zulu land to Sibi River and Nyasaland.
3. Black buck.
   Horns twisted spiral about 28 inches long.
   Found in India.

Gazelles are most widely distributed of the genere of the sub-family Antelopinac. Beautiful, delicately built animals with ringed horns, these being 'S'-curved and present as a rule in both sexes of African forms, but are lacking in the females of the Asiatic forms. They live in herds. They are found in the plains and deserts of Africa, Western and Central Asia and India.

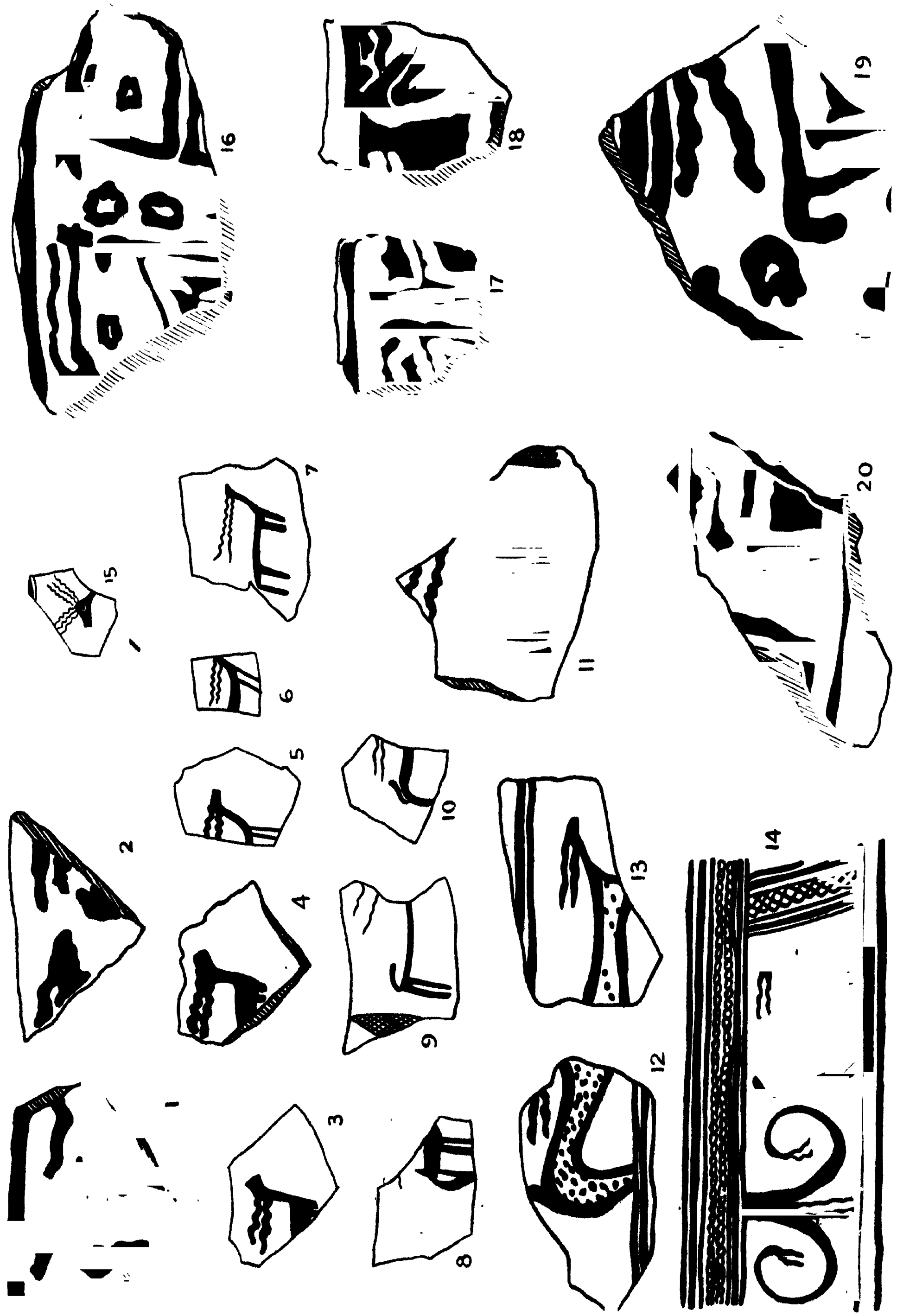


Fig. 1
Spiral-horned Antelope Motif on Chalcolithic Pottery.

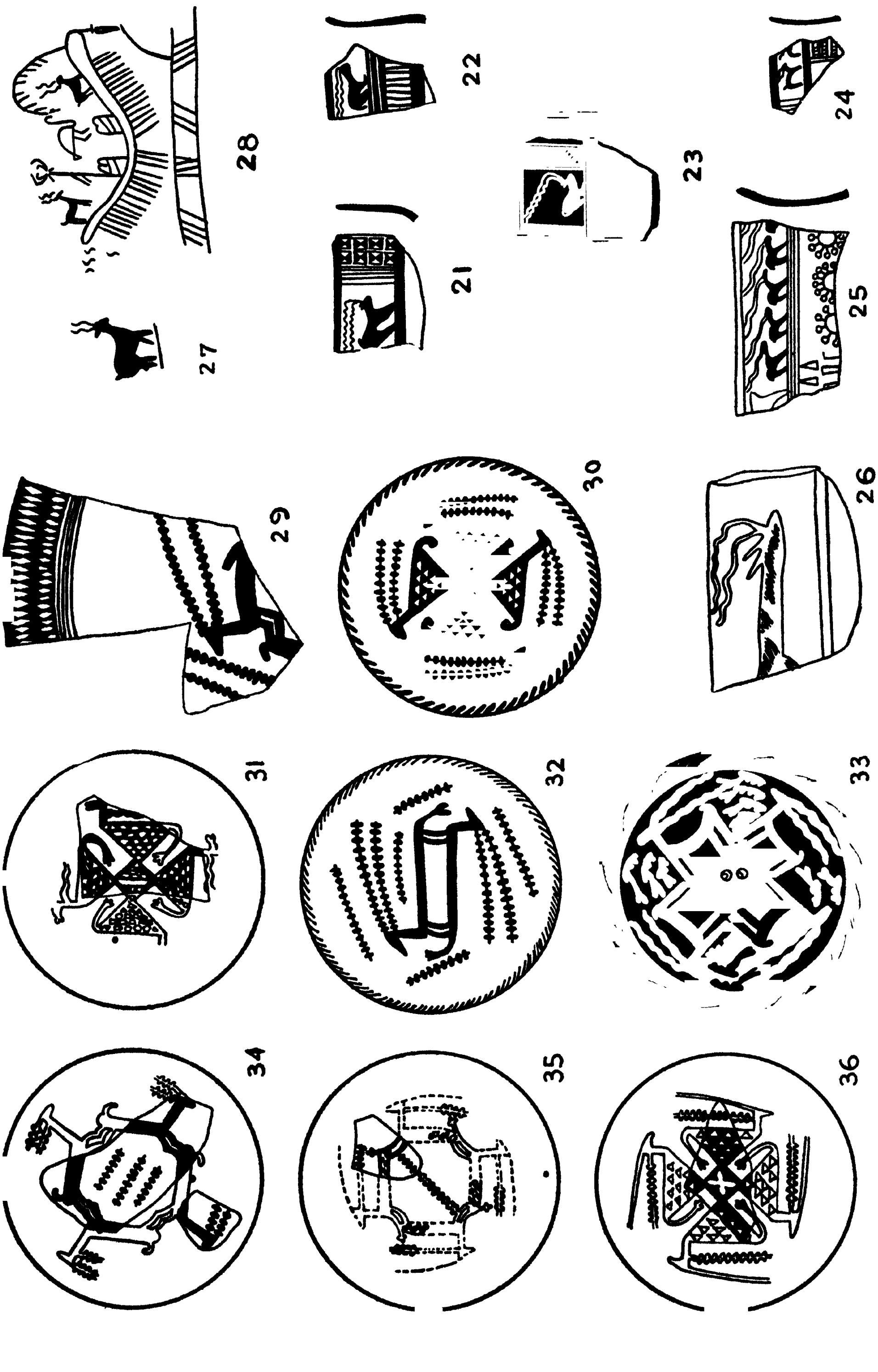


Fig. 2
Spiral-horned Antelope Motif on Chalcolithic Pottery.

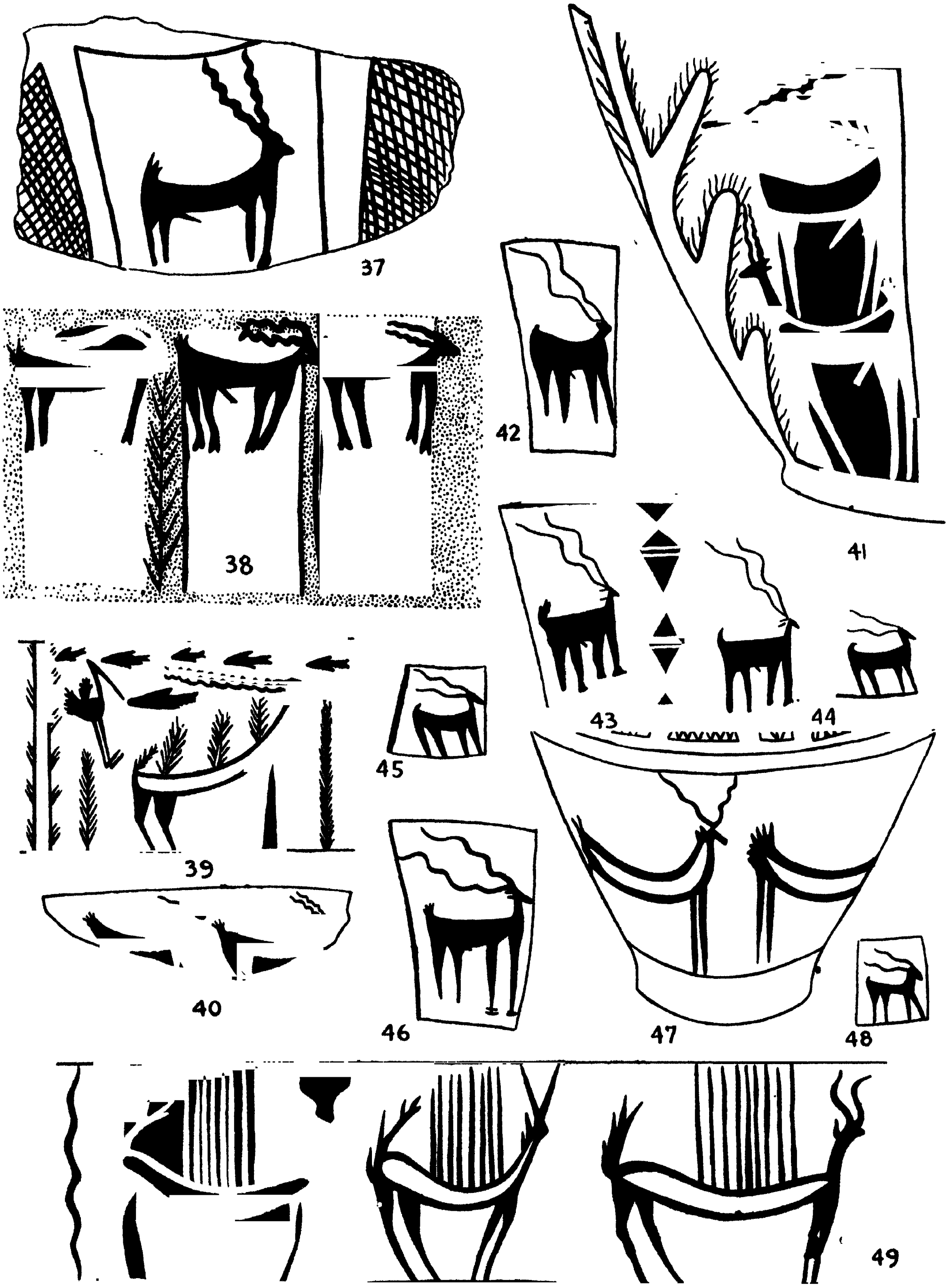


Fig. 8
Spiral-horned Antelope Motif on Chalcolithic Pottery.

A NOTE ON THE DATE OF A TRADITIONAL VERSE*

By

S. D. LADDU

The following three verses occur under the titles of ***Ekaślokī Bhāgavatam***, ***Ekaślokī Rāmâyaṇam*** and ***Ekaślokī Bhāratam***, respectively, in a modern anthology of Sanskrit poems collected and edited by Śrī Jīvānanda-Vidyāsagara BHATTACHARYA[1] :

Ādau Devakideva(i)garbhajananaṁ gopīgṛhe varddhanaṁ
MāyāPūtanajīvitâpaharaṇaṁ Govarddhanôddhāraṇam |
KaṁsacchedanaKauravâdihananaṁ Kuntīsutāpālanam =
Etad = *Bhāgavataṁ Purāṇakathitaṁ ŚrīKṛṣṇalīlâmṛtam* ||

Ādau Rāmatapovanâd (v.l. *bh*) *igamanaṁ hatvā mṛgaṁ kāñcanaṁ*
Vaidehīharaṇaṁ Jaṭāya(u)maraṇaṁ Sugrīvasaṁbhāṣaṇam |
Vālīnigrahaṇaṁ (v.l. *-nirdalanaṁ*) *samudrataraṇaṁ Laṅkāpurīdāhanaṁ*
Paścād = *RāvaṇaKumbhakarṇahananam* = *etad* = *dhi Rāmâyaṇam* ||

Ādau PāṇḍavaDhārttarāṣṭrajananaṁ lākṣāgṛhe dāhanaṁ
Dyūtaśrīharaṇaṁ vane vyataraṇaṁ matsyāsuye varddhanam |
Līlāgograhaṇaṁ raṇaṁ vyataraṇaṁ sandhyakriyāvarddhanaṁ
Pascād = *BhīṣmakaKauravâdihananañ* = *c* = *aitan*=*Mahābhāratam* ||[2]

These verses, whose object is to summarize the noteworthy incidents from the lives of Lord Kṛṣṇa and Lord Rāma and from the *Mahābhārata* respectively, are very much popular throughout India and are handed down by tradition to the present day in oral recitals and in several manuscripts[3] of the stotras, etc. Probably one of these was composed first, and, that having won popular approval, the other two were modelled after it at some period later.

It is, however, very difficult to trace the source of the tradition which has handed down any of these verses. The ***Ekaślokī*** on Rāma is not found in any printed Sanskrit work bearing on the life of Rāma, and none of the three *E*°s are to be found in any old Sanskrit anthology that appears in print.

* I am grateful to Dr. H. D. SANKALIA and Dr. M. A. MEHENDALE for giving me important suggestions while writing this.

1. *Kāvyasaṁgrahaḥ PañcasaptatiSaṁskṛtakāvyâtmakaḥ*, Nūtana Bhārata Press, Calcutta, 1872, pp. 577f.
2. Corrections and varient readings are added to the original.
3. For this piece of information I am very much thankful to Shri K. Venkateswara SARMA of the Department of Sanskrit at the University of Madras.

My attention was recently drawn[4] to a text bearing the title *Rāmakarṇâmṛta*[5] printed in the Grantha characters and attributed, on the cover-page, to "Śrīmac-Chaṅkara-bhagvat-pāda," probably the famous Śaṅkarâcārya, upon whom tradition has ascribed the authorship of many excellent devotional lyrics. The text comprises 80 printed pages and 451 verses divided into four *āśvāsas* or *śatakas* in the last of which, on p. 78, are found three verses on the life of Rāma, each summarizing anew the incidents in His life, each following the *E*° mode of successive descriptions and each bearing the burden "*c* = *aitad* = *dhi Rāmâyaṇam.*" The last of these verses agrees very closely with the *E*°*R*° mentioned in the beginning, only with the following variant readings : (in *a*) *pūrvaṁ* for *ādau*, *-anugamanam* for *-ādigamanam*, (in *c*) *-nigrahaṇaṁ* and (in *d*) *-vadhanaṁ* for *-hananam*. Unfortunately, however, from the nature and printing of the book as it came to me, the genuinness either of the authorship or of the title of the poem, or even the type of editing of the text cannot be taken very seriously. It seems to be a throughly uncritical edition of a text that appears to be an attempt of some minor poet, probably of a recent time, incorporating in its body at least a few time-honoured verses. Further, no standard history of Sanskrit literature or no catalogue of Sanskrit books or manuscripts seems to have found it necessary to take a note of it. All this makes us entirely disregard this appearance of the *E*°*R*° and look for some other and better one.

Fortunately, when almost all other sources fail to yield a help of some value, a directly suggestive reference to the traditional verse on Rāma's life has been provided in a verse from an inscription, which appears to be modelled after the former. The inscription in point is the "Purushottampuri Plates of Ramachandra"[6] edited by V. V. MIRASHI. It refers to the reign of the King Rāmacandra of the Later Yādava dynasty, and the object of it is to record the grant, by Rāmacandra, of some villages to his minister Puruṣottama *alias* Puruṣai-Nāyaka for the formation of an agrahāra and the donation, by Puruṣottama, of the agrahāra which he named "Puruṣottamapuri" after his name, to certain brahmins.

Verse 13 of the inscription[7] states that Rāma(candra), the son of Kṛṣṇa, having occupied the fort of Devagiri, forcibly wrested the kingdom from his cousin Ammaṇa.[8] The next verse (i.e. *v.* 14), with which we are concerned, "gives an interesting description of the ruse which Rāmacandra adopted to obtain possession of the impregnable fort. He entered it with a party of dancers who were his

4. I am indebted for this to Pandit K. V. Krishamoorthy SHARMA who was also kind enough to read out the script to me.
5. Edited by T. Bālasubrahmaṇya SASTRI, Śāstrasañjīvinī Press, Madras, 1920.
6. *E.I.*, Vol. XXV, no. 21, pp. 190-225.
7. (L. 20) *Āruhya vairikṣitipālamaulinisreṇibhir= Devagiriṁ gariṣṭham* / *Prasahya tasmā*— (L. 21) *d* = *apahṛtya bhuṁkte Kṛṣṇâtmajaḥ svām* = *avaniṁ sa Rāmaḥ* / [/13//*]
8. He is Āmaṇa in the Paithan Plates of the same king Rāmacandra, edited by FLEET ; *vide I. A.*, Vol XIV, pp. 314 ff.

soldiers in disguise. When admitted inside, he rallied his foot-soldiers and attacked his antagonists apparently while they were engaged in seeing the dance. The dancers also, throwing off their ornaments (*i.e.*, disguise), joined the fight. Rāma ...seems to have won an easy victory as his enemy was taken unawares."[9] The verse, along with the editor's translation, runs thus :

(L. 21) *Ādau Devagiripraveśanam = atho nṛttaprakārêkṣaṇaṁ Paścāt sb(v)ai-*
(L. 22) *rapadātimelanam = ath = âlaṁkāravikṣepaṇaṁ(m)[/*] Anviṣṭârtha-virodhidūrakaraṇaṁ tasmād = rasâsādanaṁ ŚrīRāmeṇa kṛtaṁ*
(L. 23) *tatas = tata itaḥ śloko = 'sya lokôttaraḥ* / [/14//*]

" First entrance into the fort of Devagiri, then observation of the manner of dancing, afterwards rallying of self-willed foot-soldiers, then throwing off of ornaments, removal of the opponent who obstructed (*his*) desired object and wresting of the earth from him—these were successively accomplished by the illustrious Rāma. Hence his glory is extraordinary ! "

We are not here concerned so much with the historicity of the whole account given here as with its connection with the traditional verse on Rāma and, that being proved, with the date of the currency of the latter.

The composer of the inscription here takes advantage of the similarity of the names of the king under description and the incarnation of Viṣṇu, the destroyer of Rāvaṇa. Next he goes on to establish the excellence of the former over the latter. That the poet has in his mind this sort of excellence is proved by a similar import conveyed by him more clearly in the following expressions from the very next verse describing the same king : (L. 23) *ŚrīRāmaḥ*...(L. 24) *jetā*...(L. 25) *divyâkṛtīnāṁ śiśur = api tad = iha spṛs(ś)yate = n = âpaśabdaiḥ* : " The illustrious Rāma...who surpassed celestial beings [footnote here—'*Divy-ākṛiti* means a celestial being such as Rāma who was an incarnation of Vishṇu. He was blamed by the people of Ayōdhyā, because he took back his wife Sītā after her stay in Rāvaṇa's house. (See Vālmīki's *Rāmāyaṇa* (Bom. ed.), *Uttarakāṇḍa, sarga* 63.) '] in that though a boy he was not affected by abuse."[10]

The poet, having decided to bring about the superiority of the king Rāma over the god Rāma, first shows the similarity between the two, besides being initially based on the name-similitude, by means of (1) the mode of describing the successive achievements of the two and (2) the use of the words *ādau, paścāt,* etc. expressing succession (—both these points being present in the traditional verse as well as in the poet's verse here). Next, he chooses the device of paranomasia on the word *śloka* through which he can convey the idea of superiority by a charming implication. Thus, *śloka* in the case of the king Rāma, meaning " glory "

9. MIRASHI, *loc.cit.*, p. 205.
10. MIRASHI, *loc.cit.*, P. 222.

excels the *śloka* in the case of the god Rāma, meaning the " verse " handed down about Him by tradition and also, by implication, His " glory ". The contrasting and surpassing (*lokōttara*) element of the former consists in the wonderfully brave exploit of the king Rāma in his act of winning the kingdom, which is, by implication, more extraordinary than the incidents in the life of the god Rāma.—It is further possible here, though a little remotely, that the poet intends to have a pun on the word *lokôttara* at the same time. Thus, the glory (*śloka*) of king Rāma is *lokôttara*, i.e. " extraordinary " and " arising from the *loka* or the world " (having spontaneously received public acclamation); while the glory (!) or the stanza (*śloka*) about God Rāma is *not lokôttara*, i.e. " arising from the (*word*) *loka*," but *śokōttara*, i.e. " arising from the (word or situation of) *śoka* (= sorrow)."[11] But, perhaps it gives a little stretch to the mind to read this possibility in the poet's wording, although it is not altogether to be ruled out. However, even disfavouring this second interpretation, the priority of the traditional verse over the one occurring in our inscription seems sufficiently proved.

One possible argument deserves examination just at this point. Could it not as well be that the composer of the traditional verse lived or wrote his verse *after* the composition of the inscriptional verse from which he might have borrowed both the mode of description, *viz.* an orderly succession of events in one stanza unit, as well as certain words (*ādau*, etc.) for his versification? The suspicion is open to many and obvious objections. First of all, it is strange to expect a set of copperplates containing a government charter, an important document, to reach the easy notice of a common man howsoever endowed with poetic faculties. --Secondly, it is not easy to believe a poet or a brahmin generally of meagre means and perhaps hailing from a distant part of the Indian sub-continent to reach, having successfully overcome all sorts of difficulties involved in journeying in those days, a remote village Puruṣottamapurī (retaining the same old name even now and situated on the southern bank of the Godāvarī, about 40 miles due west of Parbhaṇi, in the Bhīr District of the former State of Hyderabad), and study the inscription and take inspiration for his composition from that.—Thirdly, it is difficult to believe that the composers of the other two *Ekaślokīs* (if they were different from the

11. *Cf.* the famous line of Kālidāsa : *Niṣādaviddhāṇḍajadarśanôtthaḥ ślokatvam = āpadyata yasya śokaḥ* (*Raghuvaṁśa*, XIV, 70 cd). The same quibble on the words *śoka* and *śloka* (possessing a similar phonetic environment), which is utilised in suggesting an invention of the *Śloka* metre by the sage Vālmīki, finds an exact echo in a seventh century inscription from Indo-China. The temple to Vālmīki built there at the time of king Prakāśadharma (A. D. 653-678) contains the following lines in its inscription :

Yasya śokāt samutpannaṁ ślokaṁ Brahmâbhipūja [*ti*]
Viṣṇoḥ Puṁsaḥ Purāṇasya mānuṣasy = âtmarūpiṇaḥ //

The inscription was discovered at Trà-kiêu in the kingdom of Champa by M. J.-Y. CLAEYS. Those interested may refer in this connection to an article by Paul MUS [Études indiennes et indochinoises I, L'inscription à Vālmīki de Prakāçadharma (Trà-kiêu)] at *Bulletin de l'École Française d'Extrême-Orient*, Hanoi, Tome XXVIII, 1928, pp. 147-152; to an article by K. A. Nilakantha SASTRI [The Rāmāyaṇa in Greater India] at *JOR*, Madras, Vol. VI, 1932, pp. 117f. and to C. BULCKE, *Rāma-Kathā, Utpatti Aur Vikāsa* (in Hindi) , Hindi Pariṣad, Allahabad University, Allahabad, 1950, Part III, Chapter 13, Para. 308, p. 240.

author of the *E° Rāmāyaṇa* and if they did not in turn follow the manner of the *E° R°*) were equally impressed by the above stanza from the inscription and also were not shy enough to ape it. —Fourthly, such an idea of describing the supernatural lives of the divine deities or the incidents from the great *Mahābhārata* after the fashion of some admirer of one king Rāma, a man from the Kali Yuga, to say the least, does little respect to the deities themselves and easily meets with all-out public condemnation. But the facts are just the opposite. These traditional *Ekaślokī* stanzas are immensely popular throughout India. So, on the contrary, what is more in the fitness of things is to find a poet describing the life of his master by adopting the same mode of *Ekaślokī* that was used by tradition to describe the deeds of some deity, and, further, even exaggerating the greatness of his master by comparing him, on the basis of a name-similitude, to that deity or even, for simple amusement and as a poetic fancy, by trying to establish an artificial superiority of his master, a king, over the deity. He is not much open to public censure in attempting to have a comparison of this type, for the tradition demands for a king supreme respect, believing him to be an embodiment of the highest god Viṣṇu (*cp. Nā Viṣṇuḥ pṛthivīpatiḥ*).—And fifthly, a supposition of the priority of the inscriptional over the traditional verse would deprive the poet of the inscription of the simple yet charming pun on the word *śloka* and of the propriety of the word *lokôttara*, both, by implication, giving rise to a Vyatireka alaṁkāra or the figure of Excellence.

Our task now remains to refer to the date of the inscriptions which, from the above description, would be the *terminus ad quem* for the composition, knowldge and currency of at least one of the above traditional verses, the *E° Rāmâyaṇa*.

The inscription records two dates, not far removed from each other, when the actual donations are said to have taken place, one from king Rāmacandra and the other from his minister Puruṣottama. As calculated by MIRASHI, they correspond regularly with the 5th September A.D. 1310 and the 15th September A.D. 1310, respectively.[12]

The actual incident described in its successive stages took place when king Rāmadevarāva Yādava (or our 'Rāmacandra') ascended the throne, i.e. in A.D. 1271. On one evidence the king is believed to have died in A.D. 1309[13], his reign thus being said to have extended from A.D. 1271 up to A.D. 1309.[14]. But the present inscription which is the last record of the king shows that he was either ruling or alive at least till the 15th September A.D. 1310. Further, on the basis of a statement of Khusrū in his *Tārīkh-i' Alāī* it has to be accepted that this king was

12. *Loc. cit.*, p. 201.
13. BHANDARKAR, *Early History of the Deccan*, *Bomb. Gaz.*, Vol. I, part ii, p. 251.
14. Siddheshwarshastri CHITRAV, *Bhāratavarṣīya Madhyayugīna Caritrakośa*, 1937, pp. 699 f.

alive at least till the 3rd February A.D. 1311. MIRASHI accepts this,[15] and until any stronger evidence which entirely contradicts this comes forth we have to accept it. Now, the actual composition and engraving of the inscription should, as far as possible, have taken place before the death of the king, i.e. sometimes between the actual donation and the death of the king. By this the date of the composition of the inscription, and consequently, the *lowest* limit of the composition of the traditional verse (the popularity of which by that time must actually point to a much earlier date), comes to sometime between 15-9-1310 A.D. and 3-2-1311 A.D.

Another inscription of the same king Rāmacandra, which is dated Śaka 1193 (i.e. about A.D. 1271) and to which we had an occasion to refer earlier,[16] repeats, as the first half of one of its (unnumbered) verses,[16] exactly the text of the second half of verse 13 from the above inscription.[17] This second inscription in line 117 records one Paṇḍita Dhanêśvara as being responsible for writing the charter. If it be proved, from orthographical, linguistic and other peculiarities of the two charters that this Dhanêśvara of the Paithan Plates was the same as the anonymous poet of the Puruṣottamapurī Plates, who owing to the popularity of the traditional verse might have as well known it thirty-nine years earlier than A.D. 1310, then we can push the lowest limit for the traditional verse on Rāma even to A.D. 1271. In any case, however, the actual composition of the popular verse must have occurred much earlier than these dates.

15. " As Khusrū was a contemporary chronicler and gives definite dates to substantiate his narrative, his account may be taken to be correct." *Loc. cit.*, p. 208.
16. See foot note 8 here, and line 46 on p. 319 of the edited text.
17. See footnote 7 here.

MAN IN THE ARID AND SEMI-ARID REGIONS OF THE PENINSULAR INDIA

By

H. D. SANKALIA AND R. V. JOSHI

Introduction

The term " Peninsular India " embraces the whole of the triangular portion of India which lies to the south of the northern Indo-Gangetic plain. Though a single and contiguous landform, it shows complexities and varities in its physiographic, geologic, and climatic characteristics which vastly influence the human life of this region. The arid or semi-arid tracts of the peninsular India cannot be rigidly defined as they form small pockets or strips of land enclosed or partially enclosed within the more humid portions of the region. For this reason, firstly, a brief review of such tracts ist aken sub-regionwise, followed by a discussion of the causes and effects of aridity, secondly the part played by man in them, and lastly the possible ways and means for their development are suggested.

Arid and Semi-Arid tracts of the Peninsular India

(1) *Saurashtra* : It is a large peninsula having a middle core of forest-covered hills, while the major part of the remainder suffers from a precarious rainfall. At many places barren rocks are exposed without any soil cover.

(2) *N. Gujarat* : It is a dry region with poor sandy soil.

(3) *Eastern districts of Maharashtra* : These are dry regions, very susceptible to scarcities and famines.

(4) *Bombay Karnatak, Bijapur and eastern parts of Belgaum and Dharwar* are dry regions with scanty rainfall. Residual quartzite or sandstone hills are the characteristic feature of this part.

(5) *Practically the whole of Mysore State, Bellary, Kurnool, Anantpur and Cuddapah districts of Madras and eastern half of Hyderabad.* This region receives very irregular and often less than 40″ annual rainfall.

(6) On the east coast the region becomes progressively drier from *Orissa southwards until Nellore* is reached.

(7) *The Tamil region* between the plateau and the Bay of Bengal : It receives rainfall nearabout 40″, but since it varies within wide limits this has become one of the great famine areas of India.

(8) *In Central India and North-Eastern plateau* region comprising Chota Nagpur, Chhatisgarh plain, the drier parts are to the east.

Causes of Aridity

1. Natural

(1) *Climate* : From the above list of the arid regions of the Peninsular India. it would be evident that they fall in the middle N-S zone of the Deccan Plateau bounded on one side by the Western Ghat, and on the other by the Eastern Ghat and the deltas of the Krishna and the Godavari rivers. On the rainfall map of India, this zone ideally fits in the region having rainfall between 20″ and with some parts receiving even less than 20″. The bulk of the rain in India is derived from the SW monsoon and after a heavy precipitation in the W. Ghat region only a small portion of the rain is left for the more interior parts. Moreover, during the NE monsoon some parts of the Eastern coast get rain in winter but again, due to their peculiar position, the regions lying between the two ghats are deprived of this precipitation also. This is the chief cause for these regions becoming semi-arid or dry.

It is probable that such characteristic monsoonal rains came into existence as soon as India assumed its present configuration. That is from the Quaternary period probably the same type of climate prevailed throughout the prehistoric and historic periods with some minor fluctuations as are evidenced in the soil profiles of certain regions which are dealt with in the next section. But whether it was so, needs to be established by several kinds of studies.

(2) *Wind* : The wind activity is usually more pronounced in the dry regions. As the soil is not fixed by the vegetation in such parts the sands are often lifted by the wind and dropped on the adjoining fertile soils thereby making them unproductive. This is particularly observed in the Bijapur District, Saurashtra and N. Gujarat.

(3) *Temperature* : The arid and semi-arid tracts of the peninsular India lie in the interior and as a natural phenomena show high temperatures during hot seasons which promote rapid evaporation of the water. In many places the tanks, wells or streams become dry and thus make the conditions even worse.

Rivers and numerous small streams of the peninsular India unlike the extra-peninsular rivers get their water supply in the rainy season only and naturally during the rest of the year they gradually dwindle down to very insignificant streams. In this way the natural source of water gets affected and where there is no provision against such calamity the region becomes a worst famine area.

(4) *Geological formations* : Among the three chief rock formations of the peninsular India—Old Crystalline Metamorphic rocks, Sedimentary Cuddapah

series and the Deccan trap—normally the first two yield sandy material which coupled with the unfavourable low rainfall and high temperature in the arid tracts produces infertile soil. The yield per acre on such soils, even though they are irrigated, is very low as in certain parts of Southern Deccan. The geological formations thus indirectly influence the semi-arid regions of the peninsular India.

II. Causes of Aridity (Artificial)

Since the natural features and the historical development and archæological research in the different regions of the Peninsular area are not of a uniform nature and the data available for study are of a widely different type and value, it is advisable to discuss each region separately.

I. Cutch

We may begin with Cutch. This is surrounded by Sind, Saurashtra, N. Gujarat and Rajaputana on three sides and by the sea on the fourth. Racially and culturally therefore it has certain features which are derived from each of these neighbouring countries. Nevertheless its peculiar geographical position has endowed Cutch with a distinct individuality. As the name implies in Sanskrit, the inland or the peninsula of Cutch is a sea-coast land. Except for some broad fertile plain on the south and east, the country is otherwise sandy and rocky or surrounded by salty marshes. It receives very little of the south-west monsoon. Only the north-east rains occasionally reach the otherwise parched and dry land. This small country has varied geological formations, three of which, viz., coal, building stone and alum are of some commercial importance.

When Man first inhabited this place, it is not possible to say. For no prehistoric investigations have yet been undertaken in this country. It is probable, however, that man of a Later Stone Age Culture once lived in Cutch. For, microliths have been reported from some sites. These were first brought to my notice by Col. Gordon, and I had occasion to study them in the British Museum in 1951. It is, therefore, possible that Cutch which is contiguous to Sind will yield on proper investigations, evidence of settlements during proto and late prehistoric times. (Since this was written remains of Harappa culture have been found there in 1956).

The legendary accounts seem to describe the nature of the country and its settlement admirably. They say that most of the country was a desert and sparsely inhabited by wild tribes, except the extreme west which was a forest. The latter was cleared by a holy man from the north by burning. Pastoral people then settled on the land.

Anyway, it appears that during the 4th century B. C., when Alexander the Great passed through these regions, Cutch was not so arid a country as it is now. An arm of the Indus known as the Kori flowed eastwards. This was even navigable

and flourishing ports once stood at Lakhpat etc., and a fresh water lake existed around it.[1]

Various people—foreign and Indian—from across the seas, and Sind, Rajputana, Gujarat and Saurashtra ruled over Cutch. Monuments of these are even today found in the country,[2] but no exhaustive scientific study of these is made as yet. What is important from our point of view is that in the course of 2000 years nature and man have contributed further to make the country arid and desolate. The course of the Indus was changed naturally and artificially. Forest cover was gradually destroyed. As if this was not enough, a severe earthquake in 1819 (and again in 1956) reduced most of the cities and towns to ruins. Then came the famine. Captain MACMURDO who visited Cutch in 1818 concluded, "Except in climate, the country is perhaps less favoured by nature than any I have heard of."[3]

II Saurashtra

Saurashtra is usually derived from Surāṣhṭra (or Suratha) meaning " a good, prosperous country. " This description is indeed true of the south-western part of the peninsula only. For it is this region which has good vegetation and fertile soil. The rest has a shallow soil cover or none at all, and barren rocks appear on the surface. It is this wooded area which receives comparatively good rains. Therefore, from the dawn of the recorded history until a few centuries ago, the name ' Soraṭh ' was confined to the south-western part only. Human habitaions from the proto and early historical times are also found concentrated either along the coastal belt or the south-west region, around the Girnar hill, and Prabhas, and later at Valabhi, near Bhavnagar. The rest of the country was then, as now, thinly populated.

Of the prehistoric period, we know so little because proper, systematic search has only just begun. These definitely suggest that parts of Saurashtra were inhabited from about c. 15,00 B.C., if not earlier. At Rangpur about 3 miles, S.W. of Dhandhuka and at Lothal, Lakha Bawal, Amra and Somnath,[4] have been unearthed remains of a civilization in which copper or low grade bronze, painted pottery and microliths played an important part. Similar traces are also reported from Amreli.

This period might go to a time when Saurashtra was an island and not a peninsula connected by a marshy lagoon with the mainland of Gujarat. The Rangpur area might have a port, which is now no more.

1. *Bombay Gazetteer*, V, (Cutch) 1880, p. 128.
2. SANKALIA, H. D., *The Archaeology of Gujarat*, (1941), and BURGESS, *Antiquities of Kathiawad and Kutch*, *ASWI*, II. 1876 ; cited also by FORBES, R. J., *Ancient Technology*, II (Leiden, 1955), p. 12.
3. *Bombay Gazetteer*, *op. cit.*, p. 164.
4. *Indian Archaeology, A Review*, (1954-55), p. 12 ; 1955-56.

Saurashtra's early period is remarkable for the fact that it has supplied us evidence of an artificial lake (with Canals and Sluices) which was constructed as early as about 320 B.C. at Junagadh (ancient Girinagara) and kept in good condition by necessary repairs for over a period of about 700 years by kings of successive dynasties. The lake Sudarśana was first built in the time of Chandragupta Maurya, then repaired, when its dam gave way in about 150 A.D., by Kṣatrapa Rudradāman, and then repaired in A.D. 457-58 in the reign of emperor Skandagupta.[5] For our purpose, it is important to note that the building of an artificial lake was probably necessitated by the irregularity and insufficiency of the monsoon rains in the region even 2000 years ago. It is one of the public works of old the intentional execution of which is so well documented. For the rest of the historical period, there is nothing much to record. Large artificial lakes were again constructed under the Caulukyas. One of the most famous was at Viramgam.

III. Northern Gujarat

This region is adjacent to Rajputana and the Rann of Cutch. Hence, though it is not actually arid, fears are constantly expressed that its northern and western parts are increasingly becoming arid and sandy.[6] How far this is true has to be examined scientifically from several points of view viz., climate, soil and vegetation. Here we can have only a brief review of its archæology, particularly prehistoric, and see the light it throws on the past climatic conditions, human settlement and its environment.

The whole country, one may say from Baroda in the south to the foot of the southern extremities of the Aravalli in the north, now called the Tāraṅgā hills, is covered by a deep mantle of alluvial sand. It is almost a flat plain, relieved occasionally by low dunes. These are formed by the same sandy alluvial, and occasionally enclose an inundation lake. Rivers and streams have cut deep channels through such soft surface deposits. The region is therefore famous for deep gullies (*nalās* or *kotars*), which meet the principal rivers at several places, and make walking along their banks a difficult thing. These gullies as well as the deeply cut banks have exposed the underlying geological deposits.

A study of these deposits and the associated remains—stone tools—first by Foote (1893) and then by Sankalia, Karve and Zeuner suggests that the valleys of the Sabarmati, Mahi, Orsang and Karjan were first inhabited by man in the Middle or Upper Pleistocene period, about 2,50,000 years ago. The climate was first wetter than it is to-day, and vegetation also denser. Gradually drier conditions followed. Early Man was also present at this time. This dry phase was followed by a wet phase of a shorter duration. No traces of man have been found

5. *Ep. Ind.*, VIII, pp. 36-49, and CII, III, pp. 56-65.
6. *J.G.R.S.*, III (1941), pp. 229-35.

in this as well as the succeeding dry phase, when huge deposits of sandy alluvium were laid by rivers and wind on the existing ones. Towards its close, when the climate was becoming slightly wetter another man came to live in Northern Gujarat. In the beginning he was purely a hunter. Rhinoceros was among one of the animals that he hunted, while the dog seems to have been domesticated. Towards the later period, man seems to have learnt the art of a potter. Agriculture, however primitive, might have been also practised. It is believed that the beginning of the formation of the gullies (*kotars*) and the consequent erosion of the top soil, and a systematic but gradual destruction of the brush wood forest may be traced to this period.[7] Unfortunately this period cannot yet be precisely dated. The work at Baroda by Subba Rao indicates that it is to be definitely placed before the early historic period.[8] But the question is how much earlier? And what is its relation to the Copper-Bronze Age Cultures of Sind, Rajputana, Saurashtra and Northern Deccan?

There is not much evidence to describe the condition of N. Gujarat during the early and mediaeval historic period (c. 300 B.C.—970 A.D.). Several petty kings ruled over different of parts of the region under extra-Gujarat emperors.

But a study of the place and personal names[9] and monuments[10] of Northern Gujarat reveals that the semi-arid tract of N. Gujarat, now known as Mehsana district even then formed a large unit of the Caulukya empire. It was called the Sārasvata Maṇḍala. It was actually the home province of the rulers. A comparison of the distribution pattern of the old and modern villages together with the small and big roads that connect them up suggest that N. Gujarat was populated a thousand years ago in an identical manner as to-day. This is neither too thick as in Central Gujarat or too sparse as in Cutch. From this it may be inferred, that the climate, particularly rainfall, has not also varied considerably from what it was thousand years ago.

A consideration of the weather reports of the last 50 years seems to favour the view that rainfall has not decreased in Gujarat, though popular view is that Northern Gujarat is slowly being desiccated.[11]

Archaeology of the period under discussion, conclusively shows that the region suffered from periodic draughts. To guard against these the rulers as well as rich, public-spirited men built a series of magnificent reservoirs (*saras*) and step wells, besides temples. The best known are Sahasraliṅga Talāo built by Siddharāja

7. Zeuner, F. E., *The Stone Age and Pleistocene Chronology in Gujarat*, p. 6.
8. Subbarao, B., *Baroda through the Ages*, 1953 (Baroda), p. 10.
9. Sankalia, H. D., *Historical Geography and Cultural Ethnography of Gujarat*, (1949), pp. 44-45.
10. Sankalia, H. D., *Archaeology of Gujarat*.
11. The soil is getting more saline in regions bordering the desert. See *Vidya, Journal Gujarat University Science Number*, 1957. p. 27.

Jayasinha (c. 1100-1143) at Anahilvad Patan, the capital, and at Viramgam by his mother Mayalladevi (about 1100 A.D.). Almost every village of note has these or stepwells. These have been regarded so far as architectural beauties of the period, but were primarily meant for relieving the occasional scarcity of water.

Contemporary literature also refers to luxurious gardens and groves of mangoes and other fruit trees.

Then came a period of chaos and confusion when Muslims first overran Gujarat. From this it arose once again, when the rulers, though of different religious faith, identified themselves with the country and made it their home. The capital was shifted from Patan to Ahmedabad. Until the mills made it hideous and sooty it was a beautiful city. Mahmud Begada, it is said, had turned it, as well as many other cities in Gujarat, into beautiful gardens.

Now the region is semi-arid. Popular opinion, as cited above, believes that it is becoming arid. This may be true. For the rainfall is irregular and scanty. Or, if heavy, as in 1927, causes immense destruction by erosion. Sometimes whole villages along the banks of the Sabarmati are wiped out. Wood for fuel and cremation is indeed scarce, so also pasture for the cattle. Planned afforestation, preservation of the rain water and prevention of floods are urgently necessary. Such is more or less the history of other regions as well.

IV. Maharashtra, Bombay Karnatak

Next to N. Gujarat, the eastern districts of Maharashtra and of Bombay Karnatak and the districts of Bellary, Chitaldurg, etc., form almost a continuous zone of semi-arid region in India. The geographical position of these aeas is greatly responsible for making them semi-arid. The south-west or the north-east monsoon rains do not reach them in sufficient quantity and regularly.

The structure of these regions has also contributed to a certain extent in making them infertile. The uppermost part, now convered by the Sholapur and the upper half of Bijapur districts is an undulating plain, almost treeless, and waterless, formed by basaltic trap, and generally a thin layer of soil. Where, however, the latter is thick, and consists of sticky black soil, (called *regur*) agriculture prospers. The middle part, now embracing the southern half of Bijapur and south of the Don River is partly a plain which is very rich and partly having sandstone hills. The lower zone formed by gneiss and granite is part of the oldest Indian land mass. It presents a typically weathered appearance. The huge boulders, one notices in Raichur, Bellary, Chitaldurg, resting on one another, are indeed witnesses of countless years of weathering.

Archæology of the historic period reveals that early human settlements, as well as later habitations and cities grew up either on the banks of rivers, or around

patches of rich black soil in the hollows of uplands or well-fortified hills. The long bitter wars of which we have records in the historic period were probably fought for the possession of these essential necessities and much less for only a name. aggrandisement or territorial gain. The evidence for this view is briefly set forth below.

Until a few years ago, nothing was known of the Pre and Proto-History of these regions. But our work in Maharashtra[12] and Joshi's[13] work on the Pleistocene Study of the Malaprabha in Karnatak enables us to give a tentative sketch of the climatic conditions in the past and the contemporary cultures.

As in Gujarat, other regions also seem to have undergone (or witnessed) two major climatic changes since the Pleistocene. Practically, all the river valleys—Chambal, Girna, Narbada, Tapi, Godavari, Pravara, Malaprabha, Ghataprabha, Tungabhadra—show at least two or three aggradational phases. These were punctuated by a similar number of erosional phases due to a wetter climate. But before the final erosional phase, which is still continuing, the regions other than Northern and Central Gujarat, must have witnessed a wet phase when a thick vegetation covered the topmost deposits—sands—of the aggradation. Due to this and probably other factors unknown today—a layer of black soil varying in thickness from 6 inches to several feet is found as surface-soil in Malwa, Khandesh, Maharashtra and Karnatak. Since, however, the Early Historic times, about 300 B.C., periodic, usually heavy, rains have been eroding the former gravel sand deposits and even the rock bottom. Wherever there is no vegatation cover, as in parts of Ahmednagar District, around Sangamner, these have caused *Kotars* or gullies, as in Northern Gujarat or on the Narbada and Chambal in Central India. Along the edges of the present river-bed, even now low gravel benches are formed owing to recent aggradation, but these are comparatively loose and not cemented. Thus a study of the present rivers and topography of the land gives a glimpse of the past climatic conditions.

From the Middle or Upper Pleistocene flourished people who used primarily hand-axes and cleavers. The preponderance of the latter in Karnatak might be interpreted as evidence of a fairly good amount of vegetation. If so, it would support the inference of a wet phase when the first gravels were deposited. This is also indicated by the few fossil finds—Rhinoceros, Elephant, from Nandur Madhmeshwar. Owing to subsequent drier conditions aggradation started. Whether this was interrupted and for how long has not been ascertained. But during all this period of gravel accumulation, another man had come to live upon the rivers of these regions.[14] His tools were of a different material—chert, jasper and

12. Sankalia, H. D., and Deo, S. B., *Excavations at Nasik*, (Poona, 1955), and *Indian Archaeology, A Review*, 1954-55, 1955-56.

13. Joshi, R. V., *Pleistocene Study of the Malaprabha Basin*, (Poona, 1955).

14. Sankalia, H. D. "Animal Fossils and Palaeolithic Industries from the Pravara Basin," *Ancient India*, No. 12 and *Indian Archaeology, A Review*, 1956-57.

chalcedony in Maharashtra and Malwa; chert and jasper in Karnatak. They were also comparatively small (though bigger than microliths) and included primarily several kinds of scrapers, points and borers.

When and how this second Stone Age—Middle Palaeolithic Period—came to an end is still under investigation. The occurrence of burins[15] in the loose gravels of Maharashtra rivers, and their absence, so far, in the stratified deposits examined by us, suggests the transition to or an independent introduction of the Upper Palaeolithic. However, until stratified finds are made, nothing positive can be said. Over the last aggradation—sandy-silt deposits—was formed the black soil, presumably under a humid condition, favouring a thick vegetation. This seems to have been first partially cleared by the Chalcolithic people, as now well attested to by excavations at Brahmagiri,[16] Nasik, Jorwe, Nevasa,* Bahal, Prakashe, Maheshwar and Nagda.[17] How this culture disappeared is not yet ascertained. By about the third century B. C. the present erosional phase, characterized by short but exceptionally heavy rains seems to have prevailed.

At this period came the Andhras or the Sātavāhanas. Various members of this dynasty and others connected with them by marriage or otherwise, ruled over the Deccan, Karnatak and Andhra, including the semi-arid tracts, under discussion, for over 400 years. The country was in a prosperous condition, particularly after the 1st century B.C. when a flourishing trade with the Roman world was established. Buddhist settlements grew up all over the place. It is to this period that we can trace the building up of fine brickbuilt cities and Buddhist monuments at Nasik, Kolhapur, Junnar, Paithan, Kondapur, Amaravati, Chandravalli, etc. However, we have no specific information on the construction of dams, reservoirs or efforts at afforestation. For parts of the country then must have suffered from occasional draughts. But from the precautions the Buddhist Bhikṣus took in providing their cave-shelters with adequate supply of water by cutting out large and small cisterns and the merit attached to the construction of such public conveniences, as wells and tanks, it may be inferred that the rulers must have provided for natural calamities.

From the 3rd-4th century A.D. upto the 13th century A.D., three or four powerful dynasties—the Kadambas, Western Cālukyas, Rāṣṭrakūṭas, Yādavas and Hoyasaḷas—successively ruled over these regions or parts of them. For this vast period there is indeed dearth of evidence on the problems we are discussing. Tanks, etc. were built as before for religious purposes. And some of them, e.g. at Badami, may go to the 5th century A.D. The Smṛtis of the period recommended

15. See *Ibid.*
16. *Ancient India*, No. IV. 1948.
* An important link was recently supplied by the discovery of Jorwe-Nevasa pottery at Karhad on the Krishna by Shri M. N. Deshpande.
17. *Indian Archaeology, A Review*, 1955-56.

and the society followed the recommendation of constructing tanks for religious as well as agricultural and other purposes. In this, not only the Brahmans alone, but society as a whole profited.

In the late mediaeval period, the suzerainty over the various areas was shared by the several Muslim Kingdoms and the powerful empire of Vijaganayara. Literary sources for a proper study of this period are in plenty. The period is also rich archaeologically. While the latter is not fully studied, a study of the former[18] reveals that construction of tanks, wells, etc. as a means to get religious merit (by alleviating human suffering) was undertaken not only by an individual, but also by a corporate body. A rapid study of this period shows, however, four things :

(1) That rains were very often irregular, sometimes failing over a continuous series of years.

(2) that often the fertile lands were devastated during wars.

(3) that afforestation is even now not resorted to in some of the treeless tracts for the fear of attracting birds, as they would destroy crops.

(4) that the State and the public were anxious about agricultural prosperity and did take some precautious to conserve water, fields and plantations. But perhaps this consciousness was not deep enough and well organized so that in times of actual calamity little could be done to relieve the distress of men and beasts . As a consequence both perished in large numbers.

The rest of the Andhra-Tamil region covering the eastern and southern part of India, but excluding Malabar, or the west-coast is not all arid or even semi-arid. This belt of alluvial deposits overlies the archean and Purana rock formations along the coast. But the country on either side of the eastern ghats and the Nallamalai Hills is almost barren and sparsely populated. To this the valleys of the Kaveri and other smaller rivers present a welcome change. It is in these valleys that flourishing civilizations grew up during the historic period from at least about the 3rd century B.C. and it is these which are even now densely populated. Whether this distribution of human population has been maintained in the region from the earliest prehistoric times or not, it is difficult to say without considerable research. Archaeology, at present, tells us that the entire region (excepting perhaps the extreme south) has been under human occupation from at least 2,50,000 years and that as in Gujarat, this region particularly between the Krishna and the Palar rivers has also witnessed a series of climatic oscillations.[19]

18. SALETORE, B. A., *Social and Political Life in the Vijayanagara Empire*, (Madras 1934), Vol. II, pp. 328-332.
19. CAMMIADE and BURKETT, *Antiquity*, 1930.

Man first seems to have come on the scene after a long damp period, during which the laterite was formed. The country was not much wooded at that time. Then followed a period of violent rain, at the end of which man who made hand-axes seems to have disappeared. The climate in the succeeding phase was drier, and a man of a different culture seems to have lived in the region. This was followed by a humid phase. Again drier conditions prevailed, which more or less continue up to the present day.

Whether this climatic cycle will be applicable to the whole of the south-east coast cannot be said. But this much seems to be true that the creation of flourishing Cola and Pallava empires having as their core the Kaveri Valley, and the comparative poverty and thinness of population in the areas to the north and south respectively of this valley and the delta is to a great extent due to the ravages of climate in the latter regions and consequent poverty of the soil. It is not, therefore, surprising that man of three Stone Age Cultures—Early, Middle and Later, or the Palaeolithic, Mesolithic (Microlithic) and Neolithic, dependent primarily on hunting and gathering of wild fruits and roots lived successively from age to age in the northern parts, while the man in the south, as the early Tamil works of the Sangam period inform us, cut and burnt the forests, tilled the land, and laid the foundation of village and urban life.[20]

Before we refer to the precautions these people took in irrigating their fields, and having a constant supply of water, and thus guarding against occasional famines, it is necessary to mention a class of monuments which are practically spread over the whole of S. India. These are called megaliths. They are found in various shapes[21] known as dolmens, cists, and urnfields. Recent work at Brahmagiri[22] in Mysore and in the Chingalput district of Madras and in the Nilgiris[23] would suggest that the makers of these monuments introduced iron as well as a special fine Black-and-Red pottery and peculiar burial customs in the south, probably about the 3rd century B. C. Since the distribution of these monuments almost overlaps that of the Dravidian languages it is surmised that the bearers of this distinctive culture were Dravidians. It is further suggested that the Dravidians belonged to the Mediterranean race. This is not the place to discuss how far the theory is right. If it is true, the culture of the Sangam period may be attributed to them. But it is possible that the megalithic culture, though perhaps so recent as the 3rd century B.C., was only one of the cultures which enriched the existing cultures in the south. It may not be necessarily Dravidian. For the state of the society and culture depicted in the Sangam literature, it seems to be too young. The literature, no doubt, refers to the burial practices found in the Megalithic culture, but as pointed out by these authors, it was only one of the

20. Minakshi, C., *Administration and Social Life under the Pallav~s*, (Madas, 1938).
21. Krishnaswami, V. D., *Ancient India*, 1949.
22. Wheeler, R. E. M., *Ancient India*, 1948.
23. Das, G. N. (See in this number of the *Bulletin*).

practices of the period. Whatever be the exact contribution of this culture to the South Indian Culture, we find it there well established by the 2nd century B.C. at the latest. Within a century or so the country felt the impact of the flourishing Roman trade. This was hitherto attested by indigeneous literature as well as notices by foreign writers. But now it is proved by the discovery of Roman objects in several sites in S. India, as well as in the north. A number of ports, besides rich cities and villages grew up on the east coast. Of these, Pukar or Kaveripattanam, Mamallapuram, Kaneli and Arikamedu near Pondicherry, are some of the most famous. It is to this period that we are indebted to the introduction of monumental stone architecture for which S. India is justly renowned. Later the temples developed into magnificent buildings.

The country as a whole, however, was dependent upon efficient agriculture for its prosperity. And it is a relief to find that both the ruler and the ruled were not only conscious of the need for storing water but of providing irrigation canals as well. Thus only could the ravages of nature—occasional failure of rain—, and of man—frequent wars and consequent devastation,—could be tided over. We have excellent evidence for such a statement. While early Tamil literature refers to occasional famines in the Kaveri Valley, the Pallava[24] and Chola[25] inscriptions mention the construction of a number of tanks (*taṭāka*), wells, some in the shape of a *swastika*, canals or river channels known as Āṟṟukkāl and sluices. Many of these tanks and wells, dating from Pallava times are believed to exist even today. These irrigation works were also properly looked after by the village authorities namely the *Sabhā* and its committees.

During the later rulers the construction of tanks etc., continued. In South India, thus, it would appear that a commendable sense of public duty was shown from an early time, and hence it was possible to escape from famines to a great extent.

Before suggesting ways for improvement, it may be mentioned in summary, that -

(*i*) it is difficult to isolate the semi-arid tracts of the Peninsular India from their surrounding or adjoining humid regions, and discuss the part played by man in them separately.

(*ii*) precise evidence is lacking for a number of regions, as sufficient work has not been done in them.

(*iii*) granting the above two limitations, two main reasons may be attributed for the semi-aridity of the regions under discussion. The first is natural, the second artificial. The natural cannot be helped,

24. Minakshi, C., *op. cit.*, pp. 102-110.
25. Nilakanta Sastri, K. A., *The Colas*, Vol. II, pp. 404-06.

particularly when it is due to the geographical position of a region. The artificial aridity seems to have been hastened by man's activity since the neolithic times, when primitive agriculture began to be practised and forests were cleared for habitation. This deforestation also led to increased erosion, for instance, in N. Gujarat, E. Maharashtra and parts of Karnatak. As urbanization appeared, deforestation also increased.

(*iv*) practically everywhere in Gujarat, Maharashtra, Karnatak, and S.E. coast, man appeared in the Upper Pleistocene times. During the early period he lived on the banks of rivers and lakes, prefering open country, but from the neolithic and metal age periods rich soil was also a consideration. This has been his choice during the historic period as well. Amid the semi-arid tracts of Maharashtra, for example, density of population is greater where the soil is rich, and water is available by irrigation, if not through regular monsoon rains.

(*v*) the man has not always been a destroyer. Under the pretext of religious merit, if not by a conscious recognition of the need of public works like wells, tanks and canals have been built and growing of trees along the highways advocated at least from Asokan times down to the present day. Documentary and archæological evidence is available for all the regions, but that for S. India is indeed remarkable.

Measures to be taken for the development of these tracts

It is not in the power of man to prevent drought in India, or, so long as the country is mainly agricultural, to prevent drought from causing famine ; all he can do is to restrict and mitigate the resultant suffering.

(1) The first and foremost necessity is of correct and reliable data about these arid tracts regarding their :—

(*a*) climatic conditions : Temperature and rainfall records of as many places as possible should be available so that certain conclusions such as whether the draught or aridity conditions are cyclic or periodical could be drawn.

(*b*) Data regarding rivers and streams : records of flow of water in different seasons which will help in planning various irrigation projects and in checking the soil erosion.

(*c*) Soils : The physical and chemical properties of the soils must be available in order to know the fertility and their behaviour towards

irrigation water (this is important where the soils are saline). Preparation of soil maps and the vegetation data corresponding to the particular soil type.

(*d*) Geological information : regarding the location and total reserves of the economic mineral deposits.

The acute necessity of such data is felt at every stage while planning any of the schemes and until a first hand information of the regions concerned is not available all the future plans become baseless and culminate into a complete failure of the proposed scheme. (The recent food problem and the agricultural statistics is a well-known example).

(2) There is no difference of opinion on the vital necessity of irrigation in the agricultural countries like India and the measures must be taken to implement it as early as possible.

(3) Reforestation or planting of trees in some selected places may help in checking the soil erosion and to a certain extent, at least in the adjoining areas, minimise the extremes of temperature.

(4) The main occupation of the people, as in the rest of India, in these dry tracts, is agriculture. In more humid areas where soil is fertile, agriculture can support an extra number of population, but in arid tracts where the cultivable land is little all the population cannot live on this occupation only. Measures, therefore, should be undertaken to divert a certain number of individuals to other industrial occupations which eventually will lessen the pressure on agriculture. This would mean starting or organising new industrial concerns.

(5) The perfect and efficient communication system is necessary in every part of the country but its need is much more felt in such distressed regions. The swift transportation of food and other commodities at the time of famine is the acid test of such perfect communication lines.

With a view to profiting by the knowledge of the past climatic conditions and the part played by man in increasing or decreasing the aridity and soil erosion by deforestation and intense agriculture, it is desirable to undertake systematic archæological investigations including scientific analysis of the soil profiles as it has been recently done in several European countries.

A LATE MEDIAEVAL (13th Century) BRONZE IMAGE OF BHAIRAVA*

By

B. N. Chapekar

In the Rājā Historical Museum of Poona, there is a bronze image which originally comes from Hubḷī in Karṇāṭaka.

The back piece is 27 cms. high and 15·5 cms. broad. The height of the image proper (from the top of the crown to the base of the sandals) is 22 cms.

The image stands in the *Samabhaṅga* pose with a high *mukuta*, ear ornaments, anklets, and *Pādukā*-like sandals. It wears a dhoti up to the knees with one end dangling between two legs, and a garland of something round hanging as far as the knees. The figure is four-armed. The right front hand carries a long sword, the right back an arrow, the left back a bow and the left front holds what looks like a *Kheṭaka*. A dagger is attached at the right side of the waist with its point downwards.

Below, to the right of the central image, stands an animal-headed figure with hands in *Añjali* pose ; to the left, a human male figure holding *Kheṭaka* and sword. Over the head of the god is a canopy of five hoods of a cobra. To the right of the canopy of hoods is a small *Piṇḍi* and on the left, a standing bull. Carved representations of the Sun and the crescent moon intervene between the *Piṇḍi* and the canopy and between the bull and the canopy respectively.

Similar images coming from the same region, viz., Karṇāṭaka are also known, one of which bears a small Piṇḍi on the forehead. Such a Piṇḍi and the one along with the bull as stated above make its identification with Śiva easier. In his usual form, Śiva is found two-armed holding a deer and a *Paraśu.* Here he is four-armed wielding all the war weapons including *Khaḍga* and dagger. Moreover, the garland interspaced with something round may be taken as *Muṇḍamālā*, in case the identification proposed below is correct. In other words, it is Śiva in his *Ugra* form.

The Sauptikaparvan[1] of the *Mahābhārata* refers to the grant of a *Khaḍga* by Śiva to Aśvatthhāmā. The Śāntiparvan[2] also describes Śiva armed with the weapon in his dreadful form. During the war between gods and demons, Śiva

* I am indebted to Mr. Kelkar for placing the image at my disposal for study.

1. *mbh.* Chitrasāta edition, 10.7.66.
2. *Ibid.* (BORI), 12.160. p. 878.

received a dreadful *Khaḍga* from Brahmā, the Creator, with which he exterminated the diversity. While on the battlefield, he is described as high as the fermament, emitting fire, and equipped with the third eye on the forehead. At the end of the war, the god put off the dreadful appearance.

The present image may be compared with those from :

1. The central niche of the south wall of the shrine of Ananteśvara Mahādev at Ānandpur. (Gujarat).
2. Baroda Gate, Dabhoi.
3. Stepwall in front of the Rāmaliṅga temple at Gursale, Sātārā district.
4. South exterior of the Mahādev temple at Jhodga, Sātārā district.

Image 1 is four armed with a dagger in one hand.[3]

Image 2 has a grinning face and four arms carrying sword, some indistinct object, *Kamaṇḍalu* or *Agnipātra* and rosary. It wears a garland of skulls. A dog attending below on the left. (c. 1250 A.D.).[4]

Image 3 is naked and wears a Muṇḍamālā. It has a fierce face and four arms carrying *Nāgapāśa*, *Damaru*, *Śūla*, one arm broken. Two squatting dogs attending. (1250-1300 A.D.).[5]

Image 4 is naked, wears a *Muṇḍamālā* and has four arms holding mace. *Khaḍga Kheṭaka* and *Muṇḍa*. (1100-1150 A.D.).[6]

(Another similar image from the same place holds a *Ḍamaru* instead of the mace.).[7]

Those from the Indian Museum, Calcutta, Madras Museum, and the Museum of the Royal Asiatic Society, Bombay, wear sandals, and a skull-garland and hold a *Khaḍga* besides other weapons. The one in the Madras Museum holds a short dagger with its point downwards.[8]

Though RAO does not mention the date and the place of origin of these images, they are more or less inconformity with those mentioned above.

All these indications suggest that the Poona image is that of Bhairava. Stylistically, it may be assigned to the late mediaeval period.

3. SANKALIA, H. D. *Archaeology of Gujarat*, p. 143.
4. *Ibid.*
5. NAIK, A. V. *Archaeology of the Deccan*, 746. (anpublished, Ms. in the Library of DCRI).
6. *Ibid.*
7. *Ibid.*
8. RAO, *EHI*. II.1.179. pl. XLII.

BRONZE IMAGE OF BHAIRAVA

THE FUNERARY MONUMENTS OF THE NILGIRIS

By

G. N. Das

Megalithic tombs and urnfields and related funerary monuments form an integral part of the pre-medieval archaeology of South India. They have, however, not yet received the attention which they deserve for elucidating the course of South Indian history. During the course of his studies of " megalithic " pottery, iron objects and other antiquities at the Madras Government Museum, it was soon clear to this writer that those from the Nilgiris present features all their own, the full investigation of which cannot fail to be of considerable value. From here came pottery vessels and crude terracotta objects, for which few or no parallels could be found. From here came heaps of bronze and iron articles, exhibiting standards of metallurgy and craftsmanship of a distinctive order. And here were huge "draw-well" circles and barrows, from which these antiquities were found, the features of which presented no affinities with the megalithic monuments on the plains below. And here, above all, were groups of primitive people with their varying patterns of culture and the problem of their possible relationship with the monuments in question stirred the imagination. It was expected that, just as the recent exacavations of the Archaeological Survey of India in Mysore have helped to fix the relative chronology of the megaliths of a part of peninsular India, the likely association of any one of the Nilgiri tribes with the monuments concerned would be significant contribution to our knowledge. It was, therefore considered desirable to undertake field work in the area and, accordingly, the scholar addressed himself to this task. A synopsis of these investigations, primarily based on the writer's museum and field studies and illustrated with photographs taken by him, is subjoined.

Topography

The Nilgiri district in the State of Madras is named after the Nilgiris or Blue Mountains, so called due to the bluish haze which surrounds them. It is situated between latitude 11°8′ and 11°37′ North and longitude 76°27′ and 77°4′ East. The plateau is 35 miles in length, 20 miles in breadth and has an average height of 6,500 feet. It is so high that, though it is situated only about eleven degrees from the equator, the thermometer rarely rises above 70°. F., and in the nights of the cold season may touch the freezing point.

It is situated at the point of union of the Eastern and Western Ghats. The Bhavani river forms the natural boundary of the plateau on the south and the Moyar river on the north, where the district borders on Mysore. On the west,

it borders on Malabar Wynaad; on the east, on the Coimbatore district. In addition to the plateau, the district, as at present constituted as an administrative unit, includes the Ouchterlony valley on the west and, still further west, the country known as the South-east Wynaad, "the land of swampts." The last two areas constitute the Guddalur *taluk*.

Types of Monuments

Stone Circles are by far the most numerous of the megalithic or funerary monuments of the Nilgiri tableland. They consist of a dry circular wall, ranging from 10 to 28 feet in diameter and about 5 feet in height. In the absence of a better designation, they may be called "draw-well" circles, from their external resemblance to the common Indian draw-well, a well from which water is drawn by a bucket and a long cord or pole.

These are always found on hill tops, and on or amidst natural outcrops.

The circular wall is made of boulders at the base with smaller unhewn ones above. The monument is seldom, if ever, truly circular. The arrangement of the constituent stones is generally irregular. The interstices between stones are usually left vacant, but they are filled up at places with small chips and chert pieces. The same arrangement is observed both inside and outside the monument.

Another type of monument is the barrow which consists of a mound of earth, encircled by a ditch, and sometimes also by one or more circles of unworked stones. In some examples there is neither ditch nor circle. (Plates I & II).

A third type, which is comparatively fewer in numbers, is a circle of standing and unworked stones, embedded to some extent in the ground and, as in some cases, sloping inwards.

The other types of megalithic monuments in the Nilgiri district are cairn circles enclosing underground cists, (Plate IIIa) and cists standing above the ground, leaving one side, generally the eastern, open. (Plate IIIb).

The former are generally found on the plains of the district. Many examples of this type were recently dug up by the Electricity Department of the Madras Government at Guruveygavundanhundi on the plains near the southern border of the Nilgiris during the construction of the Moyar Hydroelectric Scheme. They contained the characteristic black and red and brown megalithic ceramic, iron objects and bones within a stone chamber with overlapping sides. On the eastern orthostat is an entrance passage controlled by a shutter stone.

Some monuments of the second type, including the cists at Tudur, were opened up by the first commissioner of the Nilgiris and were found to contain iron and bronze armlets, sickles, rings and pottery vessels.

Some of the cists contain sculptures on the inner side of the orthostats. The sculptures generally consist of a series of compartments or rows, one above the other. In the topmost, beneath representations of the sun and moon, denoting that the testimony of the stone may last for ever, are often a sacred bull of Siva, kneeling before a *lingam*, and a male figure ; while in the lower ones are standing male and female figures and representations of battle or hunting scenes.

In 1935 two Tamil inscriptions on sculptured cists at Melur were studied by the Department of Epigraphy of the Government of India. As stated by them in the *Annual Report of the Archaeological Survey of India*, 1935-36, one of the inscriptions is in characters of about the 17th or 18th century. The other is in an alphabet which may be assigned to about the 13th century. This is, however, no indication of the date of the construction of the cists themselves, as the sculptures and the inscriptions might well have been engraved at a later date. Moreover, the existence in every site of both sculptured and unsculptured cists would indicate that originally all the cists were unsculptured and that the introduction of the sculptures was a later innovation. There is, unfortunately, no evidence for the date of the construction of the cists on the Nilgiris.

Contents of Circles and Barrows

It is, however, the stone circles and barrows that form the typical monuments of the Nilgiris. They were first noticed by James HOUGH in 1826. Later on some of them were opened by HARKNESS in 1832 and by BURTON and CONGREVE in 1847. They were succeeded by J. W. BREEKS, the first Commissioner of the Nilgiris, whose investigations are recorded in his *Primitive Tribes and Monuments of the Nilagiris* (London, 1873). Since then no attempts have been made to study these singular monuments except those under review by the present writer.

Digging down into the " draw-well " circle reveals two, or sometimes three, long unhewn slabs, which in a majority of cases lie NE and SW. Round them are many-tiered vases with flared mouths and conical or round bottoms (Plate IIIc) surmounted by lids with terracotta figurines of men and animals on their tops. (Plate V) Below, at depths varying from 1 to 4 feet, are round-bottomed pottery vessels of the usual shapes, (Plate IV) but with considerable decorations. Bones are found either inside pottery vessels or bronze bowls. (Plate VI). Some of the pottery vessels do not contain bones, but only metal objects.

These circles and barrows were classified by BREEKS into three broad geographical groups according to the nature of their construction and contents. The researches conducted by the writer have not, however, confirmed this view. All that can be stated is that some circles are more massive or regular in construction than others. The pottery and terracottas from certain circles and barrows are superior to those from others in matters of firing, shape, decoration and the quality

of the clay used. Only a few contain bronze articles, obviously due to their limited supply. Some circles have either a large opening like an entrance, or a semi-circular wall built into the outer periphery. Near Ebbanad, in the Ootacamund *taluk*, for example, is a circle with two ring-like attachments on opposite sides of the external periphery. These differences are not characteristic of particular geographical regions. Whether they are due to different periods of construction or to varying customs, it is not easy to decide. All, however, contain disarticulated human bones, representing secondary interments.

We may deduce from the care employed in the construction of these monuments and the elevated positions in which they are situated that their builders held the memory of the dead in great respect and that their religious belief was associated with the prominent natural features of the land in which they lived.

Pottery

The pottery vessels from the Nilgiri circles and barrows may be divided into two broad classes :

(*a*) Tall vases, with conical or rounded bases, flared mouths, oblique and beaked rims, and many-ridged bodies decorated in many specimens with either slanting strokes or small dots. (Plate IIIc). These jars were surmounted by flanged domical lids, to which were keeled clay figures of men and animals (Plate V) of the most grotesque style. The pottery is a coarse red ware with a black core, invariably treated with a coarse wash in varying shades of red or brown.

(*b*) Low, round-bottomed jars with flanged rims, decorated with slanting strokes, wavy incised lines, or punchmarks. (Plate IV). They were generally treated with a red wash or, as in a few cases, with an ochreous slip. They are of either a coarse or medium fabric, sometimes with a black core and are superior in make to the tall vases. Some of these also had flanged domical lids, but without any terracotta figurines on their tops.

The absence of ringstands in sufficient numbers would suggest that both types of pots were largely meant either to be stuck vertically into the ground or to lie flat on it.

Some vessels of both types were treated externally with a yellowish micaceous slip. The Archaeological Chemist in India reports as follows on the chemical analysis of scrapings of this slip, taken from potsherds collected by the writer.

Loss of ignition	9·32
Silica	51·73
Pbo (Lead Oxide)	nil
Fe_2O_3 (Iron Oxide)	11·72
Al_2O_3 (Alumina)	24·93

Ca O (Lime)	... ...	1·97
Mgo (Magnesia)	... ...	0·78
SO_3 (Sulphuric anhydride)	... ...	nil
Na_2O K_2O (Alkalies)	... ...	0·23
	Total	100·68

The scrapings are, therefore, composed of ordinary ferruginous clay and do not represent a glaze. It is evident that a fine slip of ferruginous clay was applied to the ware to produce a smooth surface.

Terracotta Figurines

The human figurines are of men and women, standing or riding on horses, with short beards and conical headdresses. (Plate V). The only clothes they wear are narrow waist-cloths. They have necklaces, bracelets and other ornaments, cross-belts front and back, and short-handled daggers. Some of the human figurines are represented with one of their hands resting on their heads, like some of the early bronzes and terracottas from the Mediterranean region, as mark of salutation or reverence.

The animal figurines are of the buffalo, cow, sheep, horse, camel, elephant, dog, leopard, peacock, *sambhar* (a kind of large deer) and others too rudely fashioned to be identified with certainty (Plate V). Many figurines of domestic animals, especially buffaloes and sheep, are decorated with garlands and bells on their necks.

Some of the terracotta figurines are treated with a coarse terracotta or dark red wash. They are all handmade. The modelling is summary and the impression is sometimes blurred.

None of these figurines show a venthole, so that there is no visible means of escape for the hot gases during firing. This is contradictory to the usual ceramic theory and practice, and one wonders that none of these figurines show signs of strain from internal pressure. Probably the explanation is to be found in the porosity and coarseness of the clay, the thinness of the seams and firing at a low temperature.

Iron Objects

The articles of iron recovered from the Nilgiri circles and barrows consists of daggers, chisels, spearheads, bill-hooks and sickles, arrowheads, pikes, lancepoints, bells, a small lamp, a rattle, a shearer and a socketed spade. Some are decorated with incised designs, like simple lines, wavy patterns, dots, or chevrons.

Some of the iron objects possess a hard smooth surface of the colour and texture of steel. Steel is produced by introducing a higher proportion of carbon

(from 0.2 per cent. to not more than 2.0 per cent.), to iron which contains little or no carbon (less than 0.2 per cent.). This process of carburising was obviously for a long time purely empirical, without any understanding of the principles involved. The result is stated by archaeological chemists to have been achieved by one of the following methods :

(*a*) By allowing the iron to remain in contact with carbon at a high temperature for a time, when a certain small proportion of the carbon is absorbed by the iron, the amount depending upon the length of time the two are kept in contact, being greatest at the surface and gradually lessening towards the centre.

(*b*) By packing the iron in charcoal and heating it strongly for several days.

(*c*) By frequent heating and re-heating of iron in a charcoal fire.

(*d*) By carburising with subsequent heat treatment and quenching, as was proved to have been the case with certain iron weapons from Egypt, examined by Sir H. Carpenter and Dr. J. M. Robertson, ranging in date from about 1200 B.C. to about 800 B.C.

Some of the sword handles are very much smaller than those of modern swords. Perhaps they served an ornamental purpose. Or, probably they were held point downwards, with the thumb resting on the pommel, in the way in which the Spanish stiletto and the Indian creese are used ; and did not, therefore, require a greater space in the centre of the handle than could be encircled with the two middle fingers.

Ornaments of iron consisted of rings and bangles.

Copper Objects

Among the copper objects may be mentioned

(*a*) A rattle or bell with a slit, having at the top a staple for attachment to a strap or cord. Within the bell is a piece of metal which acts as a clapper.

(*b*) Bangles. Diameter about 1½ inches. Flattened at the sides. Both thin and thick. Both plain and ribbed.

(*c*) Rings.

(*d*) A highly carved pommel of a dagger.

(*e*) A sword guard.

(*f*) A phial standing on a hollow pedestal, probably used for keeping collyrium.

(*g*) Collyrium rods.

Bronze Objects

Some of the bronze bowls are very elegant. Some have knobs internally at the base and are decorated with lattice patterns, scroll work, simple flutings, or lotus designs (Plate VI). The most exquisite bronze bowl is decorated both internally and externally with lotus patterns, flutings, buds and fronds in a very artistic manner. (Plate VI). It stands on a bronze pedestal. It may have a phylogenetic connexion with gold bowl from Ur, *circa.* 3500 B.C. Both are oval and have fluted and rosette designs. The Ur specimen has, however, an alabaster handle.

Chemical analysis of a bronze bowl showed copper 75.25, tin 23.58, arsenic trace, lead O.21, iron O.37 and nickel. O.31 per cent, and represents oxygen in the combined state occurring as culprite. That the object was not cast but forged to shape and cold-worked is proved thus. The Vickers Diamond Hardness Number (which is almost equal to the Brinell Hardness Number) varied from 190 at the bottom of the bowl to 263 over the rim, while the hardness of the middle portion was 221. Thus different portions of the bowl have been subjected to different degrees of mechanical treatment.

Among other bronze objects, mention may be made of

(*a*) A censer with a central rod, having cups for incense rivetted to both ends ; and

(*b*) A decorated ring with imitation stones in place of gems.

There are two other decorated bronze rings, each having a snake pattern.

Stone Objects

The notable stone objects are the following :

(*a*) A curved whetstone or hone of banded slate.

(*b*) A round, holed granite stone. A mace-head or ring-stone.

(*c*) Pumice stones, used as abrasives in stone-cutting or as a scouring agent. Pumice is a light spongy lava, with a cellular structure, composed chiefly of aluminium silicate. No figure for the hardness of pumice can be traced, but it is almost certainly less than 7 and probably much less. If so, it could not be used to cut quartz. It is found plentifully in Iceland,Teneriffe, New Zealand, Nevada and from Pantellaria and the Lipari Islands in the Mediterranean. Enormous quantities of it are known to lie in various stages of decomposition on the beds of the deepest oceans.

Beads

The following types of beads have been found from the circles and barrows on the Nilgiris.

(*a*) Long barrel elliptical. Agate.

(*b*) Barrel, roughly circular. Serpentine.

(*c*) Truncated bicone hexagonal. Agate.

(*d*) Barrel circular. Carnelian. Two carnelian beads have a chevron pattern between horizontal lines.

(*e*) Square roughly circular. Opaque pale green glass.

(*f*) Short barrel roughly circular. Pale green devitrified glass.

(*g*) Three round gold beads. Diameters from .45 to 5 cms. Their weights are .1222 gms., .1294 gms., and .1172 gms. respectively.

Gold Ornaments

In addition to the gold beads, there is a ribbed ring with a diameter of 1.12 cms. at the broadest point and 1.05 cms. at the narrowest point. Its weight is 1.5820 gms. and thickness, .22 cms. A gold stud with a knob weighs. 2486 gms. and has a diameter of .52 cms. Its overall height is .4 cms. Some gold ear-rings and chains, recovered from the Nilgiri circles and barrows, are now preserved in the British Museum, London.

Chronology

A coin provides a welcome chronological datum for the funerary monuments of the Nilgiris. In a letter dated Coimbatore, November 3, 1826, addressed to the editor of the *Bengal Hurkaru,* Calcutta, Mr. James Hough, under the *nom de plume* of Philanthropos, refers to 'a gold coin about the size of a sovereign ' being dug up from a " barrow on the Nilgiri Hills.[1] The aureus had two perforations at the top and was obviously used as an ornament.

On the obverse is a head wearing a crown. To the right of the head is inscribed X/XI. This is considered the mark of value of the coin. On the reverse is the representation of a warrior. To the left is the inscription L/C. But on Roman coins this is always S.C., *Senatus Consulto,* signifying that the coins were struck by the public authority of the Senate. From the warrior on the reverse it has been inferred that the coin belongs to the Roman Byzantine series of the later period of the Empire, when Constantinople became the capital of the East and independent of the West. As the coin has not been illustrated and the details given are scanty, it is not possible to comment on this opinion. The aureus must obviously belong to a date subsequent to the introduction of a permanent gold coinage by Julius Caesar, who died in B.C. 44. The earliest Roman aurei found in India are those of Augustus (23 B.C.—A.D. 14).

The most important evidence for dating the Nilgiri remains is, however, furnished by what appears to be an inscription on a potsherd discovered by the

1. *Letters on the Climate, Inhabitants, Productions, etc., etc., of the Neilgherries, or Blue Mountains of Coimbatoor, South India,* London, 1829, p. 82.

writer. It has been pronounced by epigraphists to be in Brahmi charaters of about the first century A.D. As regards its reading and interpretation, an Assistant Superintendent of Epigraphy in India writes: ' The tentative reading seemed to me to be *raṁtaratagha...*, and I conjectured that *gha* might originally have been followed by *ṭo* or *ṭa* so as to offer the Sanskritic word *ghaṭa*, meaning a jar. But I was quite uncertain whether the letters preceding *ghaṭa* in that case would have to be regarded as representing the name of a person by whom or for whom the jar in question was made or that of an occasion on which it might have been used.'

The origin of such aberrant types of funerary monuments as on the Nilgiris is a question of paramount importance. The investigations of this writer have, fortunately, thrown some light on the matter.

Firstly, the circles and barrows have always been built on hill-tops in close proximity to existing or deserted hamlets of the Todas, a tribe of migratory pastoralists famous for their practice of polyandry and buffalo-cult. They have also been found in the immediate neighbourhood of Toda funeral grounds whether existing or abandoned. In addition, at the Toda villages of Nors and Tāraḍr, two of the most important and ancient settlements of the tribe, barrows exist in the midst of the present-day male funeral grounds, thus indicating that the places for funeral of the ancient megalith-builders and those of the Todas of to-day are one and the same, at least in these two villages. Where there are no Toda villages and funeral grounds either existing or deserted, there are neither circles nor barrows.

Secondly, the terracottas of the buffalo abound in the circles and barrows. As is well known, to the Toda the buffalo is the pivot of his life and this is certainly not true of the other Nilgiri tribes, like the Kotas, the Irulars and the Kurumbas. The Todas alone practise a highly-ritualised buffalo-cult. The milking of the buffaloes, converting the milk into butter and *ghee* (or clarified butter), giving salt to the buffaloes, taking them to fresh pastures, naming the buffalo when it has calved for the first time, renewing the dairy articles, making fresh butter-milk, rebuilding the dairy, ordination of dairymen, drinking butter-milk from the dairy—all these are carried out strictly according to rule in the case of the sacred buffaloes. In addition, buffalo sacrifice is an important ceremony in Toda funerals, both " green " and "dry " Moreover, at the funeral of a male, imitation buffalo horns of cane are placed on the fire and burnt.

Thirdly, some circles and barrows, or some of the hills on which they are situated, are recited in the prayers called *kwarzm* of the higher Toda dairy-temples. These prayers seem to have been handed down to the Todas from times immemorial and point to an age-old relationship between the stone circles and the tribe.

Fourthly, the Toda crematory for the "green" funeral, called *methkuḍi* is sometimes surrounded by a low stone enclosure, recalling the walls of the ancient stone circles. The *āzrams*, where the relics are ceremoniously cremated in the "dry" funeral, are always surrounded by a low circle of stones. These latter have small diameters and appear like miniature specimens of the primitive stone circles. Circular walls also surround Toda buffalo pens, dairy-temples and living huts, but they differ from the stone circles in the matter of the entrance passage, although circles having an entrance way are not altogether unknown on the Nilgiris.

Lastly, some of the contents of the circles and barrows may be examind in the light of their relationship with existing Toda life.

As regards the precious metals, ornaments of gold have been found from the circles and barrows. The Todas also have in their possession ancient gold and silver ornaments bequeathed to them by their ancestors. Among them may be mentioned a thick silver ring now possessed by the Pan clan; a bangle, one half of which is gold and the other silver, now worshipped at the village dairy at Kizhu; and some *maṇis*, or sacred bells, made of an alloy of gold and other metals, which play an important part in Toda dairy and funeral ceremonies.

A strong link for connecting the megaliths with the Todas is provided by a stone object. It is a sacred round holed stone, which is under worship in the dairy-temple at the Toda hamlet of Melgars, near Ootacamund, and which is precisely similar to one found from a Nilgiri barrow.

The bell-shaped pot with flaring mouth and conical base found from the circles and barrows is similar to a pot called *mu*, which is very sacred to the Todas and is used in the dairy ritual. This and other types of pottery are made to the order of the Todas by a neighbouring race of potters and artisans, called the Kotas, the Todas not being given to making pots now-a-days. They neither make nor possess any terracottas, which have been found in large quantities from the circles and barrows. But they have a widespread tradition that clay figurines were made in the olden days for purposes of play or amusement by their gods and goddesses (*teonārsivoi*), the majority of whom are nothing but deified mortals. Similarly, the Todas are not blacksmiths and procure their requirements of iron articles from the Kotas. Now, a large number of iron objects and weapons have been found from the circles and barrows. Whether these were manufactured by the ancient Todas themselves, or obtained from others, this much is certain that the Todas did use iron in the olden days. Ancient iron weapons and other articles are still reverentially preserved in the dairy-termples at Nasmioḍr, Neḍrhi and Tevakh. Iron bells have been found from the circles and barrows and it is interesting to note that the Todas still use iron bells in their ceremonies, like the *tukuler maṇi*, worn round a calf's neck at the male "dry" funeral rites among some of the clans. Even a few of the highly sacred bells, called *maṇi*, referred to above, are made of this metal.

It is interesting to speculate as to who made these ancient pots and iron objects. It can be safely assumed that they were made locally on the Nilgiris, as pottery was and is seldom imported and iron is found on the hills in the natural state in sufficient quantities to provide raw material for any primitive smelting. At present the Kotas, a neighbouring race of the Todas, are the potters and blacksmiths of the Nilgiris and the Todas obtain their requirements of pottery and iron articles from them. As regards the ancient pots and iron objects mentioned above, they were probably either obtained from the Kotas or made by the Todas themselves who have since foregotten the art in the course of the general deterioration of their culture and institutions. Or, it might even be that the Kotas represent a branch of the Toda race, that they originally formed that section of the Todas who practised pottery and iron work, and that in course of time they seceded from the main stem and formed an independent group. This view gains strength from the fact that the Kotas, though possessing a distinctive culture, have a few things in common with the Todas, like the practice of polyandry,[2] and live in villages in the neighbourhood of Toda hamlets. Their secession from the main tribe might be attributed to the inferior social position which potters and iron-workers generally enjoy in India. Thus the Saora have a division called Luara or Muli who work in iron and are separating from the oringinal tribe.[3] When a Maria or Muria takes to iron work he has to move outside the village.[4] The Tamil goldsmiths now refuse to intermarry with the Karuman blacksmiths, though both belong to the same great occupational caste of the Kammalan.[5] In Bengal, the members of the Barhi who took to iron work had to separate as the Kokas Lohar.[6] Similar is the origin of the Agaria of Madhya Pradesh and the Asuras of Bihar.[7] It is obvious that when any occupation is either banned or despised, the springing up of a new tribe from those who practise it is considerably hastened and such an origin might well have held good in the case of the Kotas.

However, a difficulty in attributing the circles and barrows to the Todas is presented by the artistic bronze bowls found from these monuments. Similar examples are largely unknown to the whole course of Indian archaeology. Due to the non-availability of tin in India, it is extremely unlikely that the ancient Todas could command the raw material and possess the necessary economic surplus to indulge in the luxury of producing such elegant bronze work. But, as mentioned above, at least one bronze bowl distantly resembles a specimen from Ur, and there is no doubt that others have general Mediterranean affinities. It may, therefore, be reasonably suggested that the very few bronze bowls found from the Nilgiri

2. MANDELBAUM, D. G., "Polyandry in Kota Society," *American Anthroplologist*, Vol. 40, 1938, pp. 574-83.
3. THURSTON, *Castes and Tribes of Southern India*, Vol. VI, p. 308.
4. GRIGSON, *The Maria Gonds of Bastar*, (1938), p. 175.
5. THURSTON, *op.cit.*, Vol III, p. 107.
6. IBBETSON, *Outlines of Panjab Ethnology*, (1883), p. 327.
7. ELWIN, *The Agaria*, pp. 10-11.

megaliths were importations. Most probably they were obtained by the megalith-builders from the Roman traders, who carried on an extensive commerce with South India at the dawn of the Christian era. In Tamil poems there are references to *Yavana* vases and lamps.[8] When Roman amphorae, Arretine and rouletted pottery and Roman glass bowls have been found from the excavations at Arikamedu,[9] French India, and costly silver vessels made in Capua, Noricum, Rhaetia, Dalmatia and Alexandria were presentaed by the Romans to the Sakas of Barbarican at the mouth of the Indus and Barygaza or Broach,[10] it is not surprising if the bronze bowls found on the Nilgiris were obtained through the Roman traders. It is important to note that the Nilgiris formed a part of the Chera kingdom[11] which felt the full impact of the Roman trade, because it contained pepper in abundant quantities,[12] partly controlled the beryls of Coimbatore[13] and was ' more fertile, more peaceful, more easily reached by western merchants than were other Tamils.[14] Moreover, the Nilgiri district itself was also one of the centres of Roman trade and provided the Roman traders with beryls,[15] which were fashioned into ornaments by Roman women, and also probably with long-tailed *langur* monkeys[16] of the type called *Semnopithecus*, which were imported by the Romans for purposes of exhibition. As Roman coins have hardly been reported from the Nilgiris, it may be suggested that Roman trade in the area was carried on by barter, the natives being unused to coin currency.[17]

These pieces of evidence argue strongly in favour of attributing the Nilgiri circles and barrows to the cultural ancestors of the present-day Todas, whose skeletal remains and funeral goods they contain. But the Todas no longer build such funerary monuments and we can only surmise that they must have given up the practice in the course of their history. Fortunately enough, a widely-known Toda tradition is emphatic about a fundamental change in their funeral practice at some time in the past when the earlier custom of casting out the dead and the cremation of sacred buffaloes was replaced by the cremation of human beings and the casting away of dead buffaloes. Casting away or exposing the dead to the elements or animals (*iduvôr*) is mentioned in ancient Tamil literature of the second century A.D. and seems to have been practised by the megalith-builders at Brahmagiri in Mysore and Jiwarji in Hyderabad, as the archaeological evidence tends to show.[18] It may, therefore, be suggested that the circles and barrows on the Nilgiris represent the earlier phase of Toda funerary practice, when human bodies were

8. Pillai, *The Tamils Eighteen Hundred Years Ago*, p. 38.
9. *Ancient India*, No. 2, pp. 17 ff.
10. Rostovtzeff, *The Social and Economic History of the Roman Empire*, pp. 69,71,73.
11. Warmington, *The Commerce between the Roman Empire and India*, p. 270.
12. *Ibid.*, p. 58.
13. *Ibid.*, p. 251.
14. *Ibid.*, p. 290.
15. *Ibid*, p. 250.
16. *Ibid.*, 147.
17. *Ibid*, p. 122.
18. *Ancient India*, No. 4, p. 197.

at first exposed and then selected excarnated bones were finally interred in the monuments concerned, as in the case of the megalithic cists in Hyderabad and Mysore.

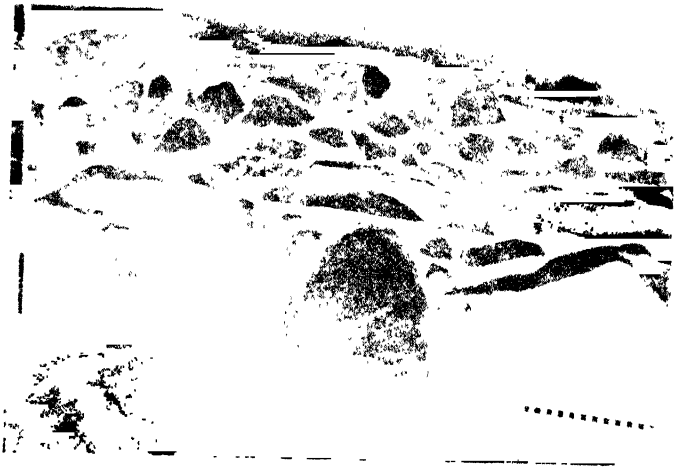
This view of the origin of the Nilgiri circles and barrows, coupled with the evidence of their chronology given above, will date back the history of the Todas to the beginning of the Christian era. Till now all we knew for certain was that the Todas were already on the hills by 1117 A.D. from an inscription of Hoysala Visnuvardhana found in the Chamarajnagar taluk of Mysore.[19] But unfortunately, the origin of the Todas themselves is shrouded in a thick veil of mist. The recent theory of Prince PETER of Greece ascribes to them a Sumerian origin from the fact that some of the Toda gods have names similar phonetically to those of the Sumerian gods. Additional evidence in favour of this view is provided by the tribes inhabiting the marshes of Southern Iraq, sometimes called the Great Swamp, which, according to archaeologists, was inhabited during the Babylonian and Sumerian epochs.[20] The water buffalo is the main domestic animal of the tribestmen here[21] and their most popular type of living-and guest-hut is the *kukh*, a hut with a rounded roof[22] like the Toda huts but without the miniature entrances of the latter.

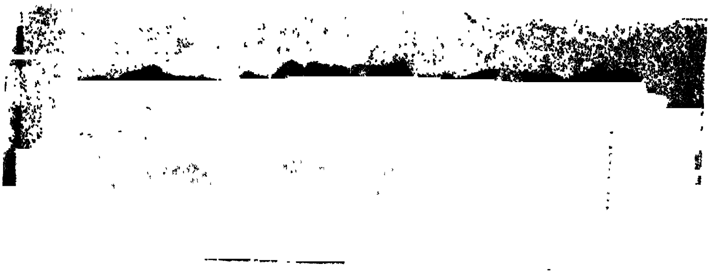
Be that however as it may, there is reason to believe that the Todas have been living on the Nilgiri Hills through numerous vicissitudes for well-nigh 2,000 years and that we have in them the representatives of an ancient and historic race that has withstood the onslaughts of time.

Conclusion

In conclusion, the general result of this study remains to be assessed. Now, India south of the Vindhyas has long been known to contain very large numbers of megalithic tombs, dateable to a period ranging from the last two centuries B.C. Their numbers and distribution clearly show that the culture which they represent powerfully influenced the history of Southern India. Unfortunately, it has not been possible to find out who the bearers of this vigorous civilisation were. No doubt certain aboringinal tribes of Central and North-eastern India still erect megalithic structures, but these are not tombs but memorial monuments. All that can be said is that the distribution of megalithic tombs in Peninsular India and that of the Dravidian languages largely overlap and that this offers reasonable grounds for attributing the megaliths to the speakers of Dravidian languages. While the origin of the South Indian megaliths in general thus remains largely obscure, the light now thrown on the Nilgiri area by the connexion shown to exist between the typical megaliths there and the ancestors of the present-day Todas cannot fail to be of considerable value.

19. *Epigraphia Carnatica*, Vol. IV, p. 16.
20. DROWSER, " Arabs of the Hor Al Hawiza, " in Henry FIELD'S " *The Anthropology of Iraq*," Part, I, No. 2, pp. 368-9.
21. *Ibid*, p. 378.
22. *Ibid*, p. 381 and Plates 53 and 54.



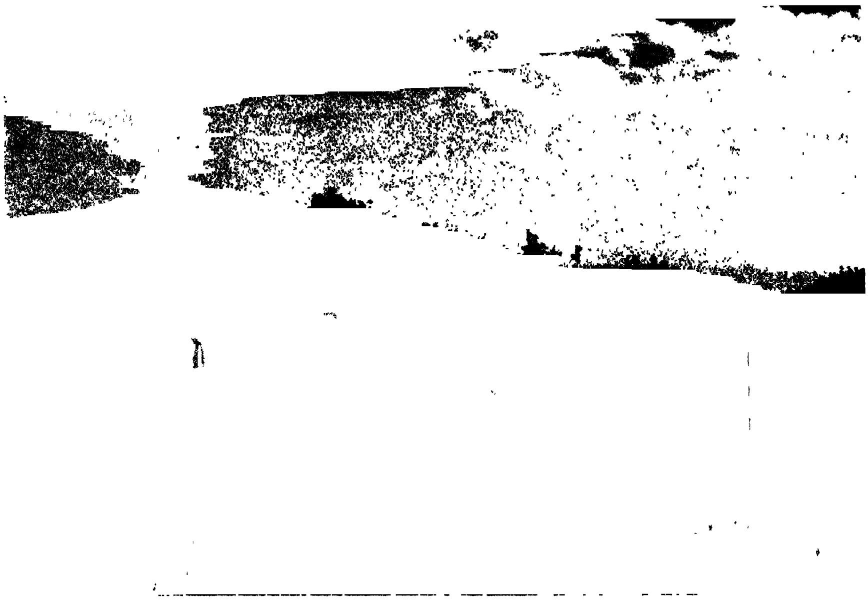


b

'Funerary Monuments of the Nilgiris

Plate I

a



b

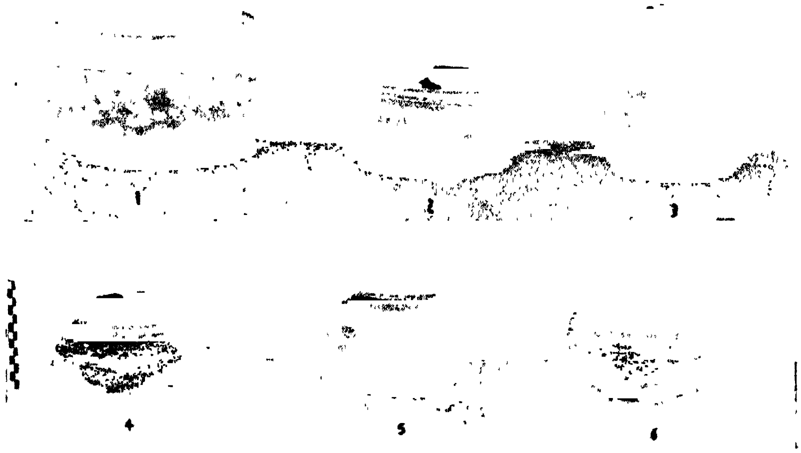
' Funerary Monuments of the Nilgiris '

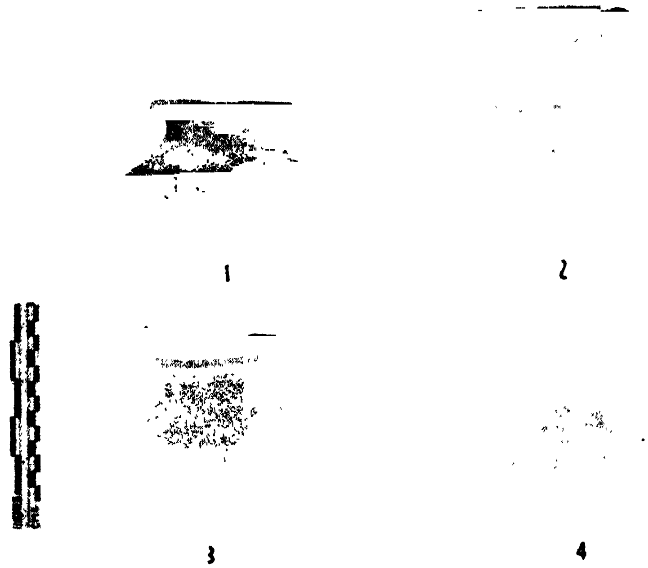
Plate II

C

'Funerary Monuments of the Nilgiris.

Plate III



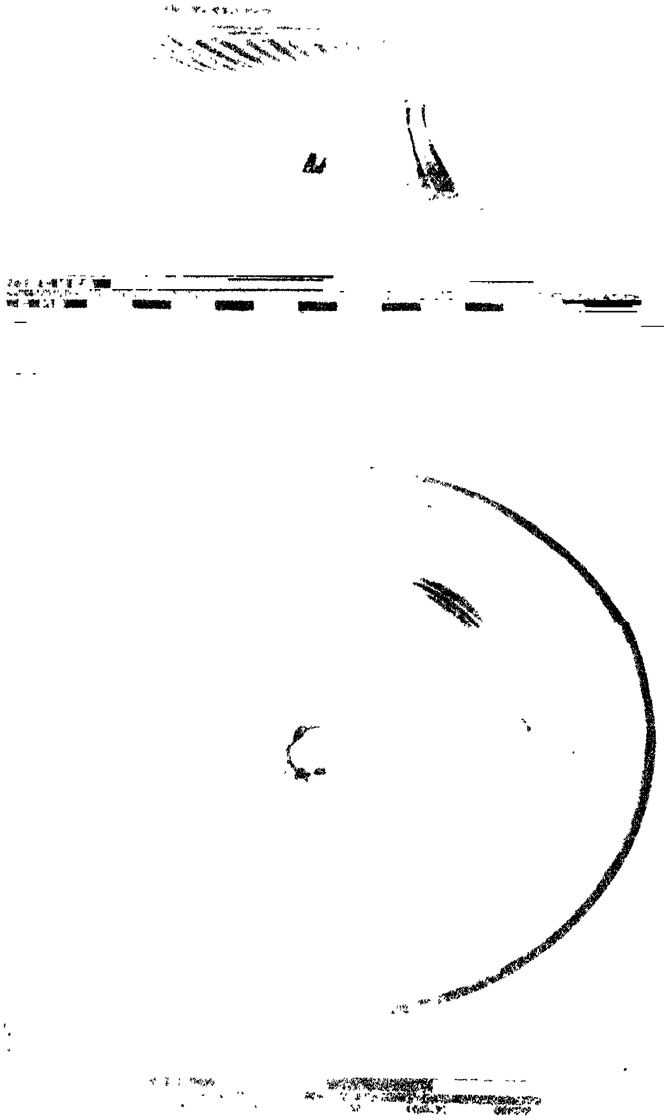


‘ Funerary Monuments of the Nilgiris. ’

Plate IV

Plate V

Funerary Monuments of the Nilgiris.



'Funerary Monuments of the Nilgiris.'
Plate VI

PALAEOLITHIC INDUSTRY OF R. SHIVNA[1]

By

A. PRAKASH KHATRI

Shivna is a tributary of the R. Chambal. It rises from a village of the same name in Partabgarh State[2] in Western Malwa plateau. It receives practically all the drainage of the southern portion of that territory and after forming the eastern boundary for twenty-three miles, turns to the north-east.[3] to enter Gwalior territory at Nandwed[4] (23°48′ N). It passes through Mandsaur[5] and joins the Chambal near the village of Borkhera. Its total lenght is near about sixty miles.

It was during this summer (in the month of April and May in 1956) that I visited this area of western Malwa and spent more than forty days in exploring and surveying this region. The occurrence of palaeoliths in Shivna at Mandsaur was reported to Dr. H. D. SANKALIA by Shri H. V. WAKANKAR of Ujjain. He sent some implements also for inspection from this place which are included in this account. As a part of my studies on the Stone Age Cultures of Central India, Dr. SANKALIA advised me to undertake a methodical survey of the Shivna river. Besides this river, other tributaries of Chambal system were also examined at several points. River Gambhiri of Chitorgarh contains a lot of Stone Age tools, some of which were collected for the study. In this paper the industry of R. Shivna is dealt with.

Mandsaur[6] (ancient Dashapura), the chief town on the banks of R. Shivna is of great historical importance. It is a railway station on the Ajmer-Khandwa section of the Western Railway and is also linked by Mhow-Neemach road which branches off from the main Agra-Bombay national highway at Mhow. During the Gupta period (400-600 A.D.) it was a flourishing city. It has still that aroma of antiquity. It has ruins, which are still untouched by scholars for their detailed study. There is a huge mound on the left bank of the river in front of Mahadeo

1. In Survey of India Topo-sheets Nos. 45P (4 and 8) it is mentioned as SEU or Sau.

2. After independence this princely state has been merged with other states of Rajputana to form a bigger administrative unit of Rajasthan.

3. ERSKINE, K. D., *Rajputana Gazetteers*, Vol. II-4, p. 196.

4. LUARD, C.E., *Gwalior State Gazetteer*, Vol. I, Part III, p. xlvii.

5. Spelled as in Survey of India Topo-sheets Nos. 45P (4 and 8). In *Gwalior State Gazetteer* it is mentioned as Mandasor.

6. See for historical importance of Mandsaur, *Arch.Survey of India, Annual Reports*, Vol. XXII, p. 185 ; Vol XXV, p. 191 and *Indian Antiquary*, Vol. XV, p. 196 ; Vol. XXXVII, p. 107.

For notes on inscriptions from here see *Indian Culture*, Vol III p. 379 ; IV, p. 262, 325 and 361 ; V, p. 381 ; VI, pp. 110 and 389 and *JBBRAS* (old series) XXIV, p. 590, New Series II, p. 176.

Ghat which is being eroded away every year by the flood during the rainy season and still remains unexcavated. And from this palce (Locality IV), a prehistoric factory site was also found.

Geology

Mandsaur area was first mentioned by MEDLICOTT while discussing the boundary of the Vindhyan series in Rajputana.[7] HERON (1936) surveyed the area of South-Eastern Mewar which also included Partabgarh state and the Nimach district of Gwalior.[8] He excluded Mandsaur while describing the geology but included this portion while preparing the Geological map of that area. The geology of Mandsaur and particularly the area through which R. Shivna flows, is practically the same as that of Nimach, district of Gwalior, and Partabgarh.

The principal rock in this part of Malwa is Deccan trap. This is exposed at many places by the river during its course. Otherwise rich black cotton soil covers the whole region which gives an excellent crop of poppy. The elevation of the Malwa plateau is between 1650-1700 ft. above the sea.

R. Shivna was examined at several points along its course. These points from the source downwards are :-

(1) Bhaugarh.
(2) Bilesari (local bus service goes upto Nandeota, a small village and from there it is about five miles eastward.)
(3) Nan-na-kanthar.
(4) Mandsaur.
(5) Chiklia.
(6) Nahargarh.

At Bhaugarh the bed of the river is rocky, made of trap. While going upstreams towards its source, it is very deep for one and a half mile. No implements.

Shivna at Bilesari, has a sandy bed but above this point, the banks are high and rocky and water deep. No implements.

Nan-na-kanthar is about seven miles from Mandsaur by the road going to Partabgarh. Here the limit of Madhyabharat ends while that of Rajasthan starts. There is a forest-post also. Here again the bed is rocky and the river is cutting its own banks. Huge boulders of cemented gravel have fallen from the left bank in the middle of the stream. Here six tools were found.

7. *Rec.Geol.Surv.India*. Vol. I, pt. 3, pp. 69-72.

8. HERON, A. M., The Geology of South Eastern Mewar, Rajputana in *Mem.Geol.Surv. India*, Vol. LXVIII, part I, p. 4. Geological map of scale 1"=4 miles is attached herewith.

Mandsaur is the richest site. One hundred and twenty-five implements were collected from the different localities of this place. At locality IV alone more than ninety implements were found. A small dam has been erected near Ramghat and from here the drinking water is supplied to the whole town. At this point also one can see huge gravel boulders having fallen down from the left bank due to the strong river current during the floods. The same is the case near the railway bridge.

One of the interesting things which can be seen here while coming from Ram Ghat to Mahadeo Ghat is the cemented gravel which is jutting out from the soil, about 6 to 10 ft. above the present level of the river. It goes on along the bank for half a furlong and intrudes inside the land, in the field, at one point for about 150 yards. It clearly shows that once the bed of Shivna was at that height and it has cut its bed from that level of jutting out gravel to its present state. The river bed from Ramghat to the road bridge is sandy and beyond that the trap is again exposed.

Chiklia is about four miles from Mandsaur down stream. Here also four stone tools were found. The river meanders many times between Mandsaur and Chiklia. The bed is rocky.

At Nahargarh, river Shivna flows about three miles away from the proper village. The bed is rocky and is absolutely dry during the summer. Twenty-two implements were collected on the right bank, away about a furlong from the point at which the river is crossed by the villagers. Here on the left bank a beautiful section is exposed which can give the history of the river. (see Fig. 1)

The abbreviation used for the sites from which implements were collected are given below :-

Nan-na-kanthar (NNK)

Mandsaur (MDR).

Loc. I : Mahadeo Ghat.
II : Sarwan Nala
III : Ram Ghat.
IV : Near the railway bridge and opposite the bank on which cremation ground is situated. (Prehistoric factory site).
V : Nala in front of Ram Ghat.

Chiklia (CKL)

Nahargarh (NRG).

Locality IV at Mandsaur needs special mention. It is a site on the trap on the right bank of R. Shivna (going downstream), near the last foot of the railway bridge

covering an area of about 70 × 15 sq. yards. The site is quite away from the main water current but during floods the water can easily reach there. Eighty-nine implements out of the total assemblage were gathered from this locality. Besides the number of implements found here, another reason for calling this a factory site is the freshness of the tools. They are absolutely unrolled and are in mint condition. At other localities on Shivna the implements are rolled.

On the trap, at this site, cemented pebbly gravel also exists. A few implements were found *in situ*. Besides this some implements were embedded in the white lime-like thing in between the crevices in the trap.

The raw material, used for making tools is of three types. One is a dark red, fine grained quartzite. One hundred seventy-one implements out of one hundred seventy-eight were made out of this material. Four out of the remaining seven were made of dolerite and rest of pale green fine grained quartzite. All the three rocks are well suited for the conchoidal fractures.

The proper choice of the rock for the manufacture of good implements is necessary and the makers of the Shivna palaeolothic industry did it. The nature of the rock used certainly influences the utility of the tool and its make-up if not the tool type.[9]

II—CLASSIFICATION OF ARTIFACTS

Table showing the number of implements collected from each site and locality.

S. No.	Name of the site and locality.	Hand Axes Bifacial	Hand Axes Unifacial	Cleavers End	Cleavers Side	Cleavers Indeterminate	Scrapers	Discoids	Cores	Flakes	Total
1	**Nan-na-kanthar**	---		--		-	-	-	4	2	6
2	**Mandsaur :**										
	Loc. I	2	1	--	--	1	1	—	--	3	8
	Loc. II	3	--	-	·	--	1	—	—	3	7
	Loc. III	4	1	1	1	·	-	—	2	9	18
	Loc. IV	37	9	9	6	4	5	—	5	14	89
	Loc. V	2	—	--		—	—	-	1		3
2a	**Mandsaur***	8	·	5	---	2	1	2	3		21
3	**Chiklia**	1	1	1	--	--	·	--	—	1	4
4	**Nahargarh**	14	4	—	—	1	--	—	1	2	22
	Total	71	16	16	7	8	8	2	16	34	178

* These 21 implements were collected from Mandsaur by Shri. H. V. Wakankar and were sent to Dr. Sankalia for examination.

9. Leakey, L.S.B., *Adam's Ancestors*' p. 30.

Classification and description of tools.

Shivna palaeolithic industry consists of following types of tools.

(1)	Hand axes	87
(2)	Cleavers	31
(3)	Scrapers	8
(4)	Discoids	2
(5)	Cores	16
(6)	Flakes	34
	Total	178

I—*Handaxes* :

These are of two types :

(1) Bifacials
(2) Unifacials.

(1) Bifacials are further classified into three categories :

(*a*) on cores or pebbles.

(*b*) on flakes.

(*c*) Indeterminate (completely worked, so that one cannot recognize whether it is on core or on flake).

Among each of these three categories of Bifacials, tools are again grouped into three stages according to the technique. It should be clearly understood that these stages do not represent any kind of ' evolution '; as tools do not come from different strata so that one may recognize sub-phases in particular industry as is the case in the Olduvai gorge[10] of East Africa. They are surface finds and one may say that all were made by the same prehistoric community. This ' stage ' classification simply indicates in how many implements particular technique is used in greater or lesser degree. As for example, the ' step ' technique is used in almost all the tools without any regard of the stages. But in stage I it is less with more of bold-flaking, in stage II, 'step ' technique is extensively used, while in stage III the implement gets symmetry, is worked by wooden-cylinder-hammer technique as shown by the skimming and shallow flake scars though 'step ' technique is also used side by side.

Types of Bifacials on pebbles or cores :

Stage I (15)—Tool retains pebbly or original surface on most of its part; sometimes only anterior portion is chipped—on the tip and on the sides—and all

10. LEAKEY, L.S.B., *Olduvai Gorge.* (A report on the Evolution of the Hand axe culture in Beds : IV).

the rest is left as such. 'Step' technique used but little; large, bold and deep flake scars; usual shapes are pear, oval and triangular.

(*i*) Rounded butt; elongated oval; narrow, rounded tip; bold deep flake scars on the anterior. (MDR 144).

(*ii*) Broad, straight butt; triangular; narrow, rounded tip; hump on the butt; mid-ridge from tip to the butt, marked by bold flake scars; 'steps' present. (NRG 145).

(*iii*) Angualr butt; oval; rounded tip; cortex on most of the part; large bold flake scars. 'steps' present. (NRG 148).

(*iv*) Thick, broad, angular butt, pear-shaped, pointed tip; cortex on most of the part; 'step' technique used; marked by large bold flake scars. (MDR. 99).

(*v*) Angular, curved to the left butt; pointed tip; anterior portion chipped by large bold flakes; 'steps' along the working edge. (MDR 100).

Stage II (12)—Implements in this stage also retain pebbly or core portion but to a lesser extent than the tools of stage I; 'step' technique is extensively used. In shape they are pear, with either pointed or tongue-like tip; almond and sub-triangular. These are better finished than those of the previous stage.

(*i*) Rounded trimmed butt; pear-shaped; broad tongue-like tip; completely worked under surface; working edge sharp, wavy and all round; marked by bold deep flake scars; 'steps' on under-surface. (MDR 78).

(*ii*) Rounded butt; pear-shaped; pointed apex; completely worked under surface; working edge sharp, wavy and all round extensive use of 'step' technique on the under-surface. (MDR 49).

(*iii*) Broad, rounded butt; almond-shaped; pointed tip; under surface completely flaked; bold, large flake scars with 'steps.' (MDR 99).

(*iv*) Straight, oblique butt; Pipal-leaf[11] shape; narrow straight oblique tip; large, bold flake scars; extensive use of 'step' technique. (MDR 79).

(*v*) Narrow, rounded butt; quadrangualar; pyramidal body; pointed tip; working edge sharp, wavy and all round; big central hump where six, large bold, deep flake scars converge; 'steps' present. (MDR 5).

11. *Ficus religiosa*.

(*vi*) Broad, straight pebbly butt; sub-triangular; long pointed tip; bold flake scars on the anterior portion; 'step' technique used. (MDR 76). Fig. I.

Stage III —Shallow, flat skimming scars of wood technique along with 'step' scars. No implement.

(*b*) Bifacials on flakes :— (16).

These implements are smaller, thinner, and lighter than other tools of the assemblage. In the best tool of this category (MDR 12) there are even shallow, skimming scars probably by cylinder hammer technique. But all the ten implements have been grouped in Stage II. Stage 1st and 3rd absent. The reason is that 'step' technique is extensively used in all the specimens. The best tool (MDR 12) above mentioned could have been put in stage III but it has been retained in Stage II to show the 'gradation' from ordinary flake to a well worked tool. Out of ten specimens, nine show this 'gradation.' The tenth specimen of this tool is of another type which also shows a beautiful craftmanship on the part of the prehistoric maker of that tool. (MDR 68). This has been described below.

(*i*) Rounded, trimmed butt; chordate; symmetrical; showing 'S'-twist; pointed tip; working edge straight though wavy, sharp and all round; extensive use of 'step' technique; shallow skimming scars on the upper surface; worked on both the sides. (MDR 12). Fig. II.

(*ii*) Straight, oblique butt with a simple platform; chordate; pointed tip; straight, serrated but sharp, all round except the butt, working edge, 'steps' present. (MDR 121).

(*iii*) Plano-convex with both ends pointed; trimmed by 'pressure' technique, all round the periphery on the upper surface with original surface in the centre; 'step' technique used. (MDR 68). Fig. III.

(*c*) *Completely worked bifacials* (Indeterminate) (May be on core or on flake but cannot be recognized).

These are also further grouped into three stages:

1st stage (11):—large tools; big, bold, deep flake scars; some of the specimens show 'hump' on the upper surface; wavy central-ridge, sometimes present. In most of the specimens flake scars converge towards the central 'hump'; 'step' technique rarely used. Following are the types of the specimens :—

(*i*) Angular thick butt; pear-shaped; long pointed tip; hump in the centre on the upper side where large, bold flake scars converge from all sides. (MDR 64).

(*ii*) Straight, oblique butt ; pear-shaped ; pointed tip (damaged); hump in the centre where five large bold flake-scars converge. (MDR 80).

(*iii*) Narrow, rounded butt, pear-shaped, tongue-like pointed tip ; central hump on the upper surface where bold flake scars meet. (MDR 82). Fig. IV.

(*iv*) Rounded butt ; pear-shaped ; tortoise-like body ; tongue-like, narrow round tip ; central mid ridge present on the upper surface. (MDR 70).

(*v*) Rounded butt ; almond-shaped, long pointed tip ; hump in the centre on the upper surface, where large flake scars converge. (MDR 50). Fig. V.

(*vi*) Narrow rounded butt, elongated oval, tongue-like tip, marked by bold flake scars. (NRG 155).

(*vii*) Straight butt ; triangular ; pointed tip (damaged) with bold flake scars ; 'step ' technique is also used. (MDR 91).

These specimens of stage 1st can be very well compared with the Abbevillian hand axes of Europe in form as well as in technique.

Stage II (9):-Show and make up of the specimens of this stage is better than of the previous one. ' step ' technique is used often. Following are the types :--

(*i*) Rounded butt ; elongated pear ; tongue-like apex ; central mid-ridge on both the surfaces ; working edge sharp, wavy and all round, 'step ' technique extensively used. (MDR 80), Fig VI.

(*ii*) Rounded butt ; pear-shaped ; pointed apex ; working edge sharp, wavy and all round upper surface thick and with central keel ; lower surface flat ; 'step ' scars present. (MDR. 30).

(*iii*) Rounded butt ; pear shaped ; tongue-like tip ; ' step ' along the working edge. (MDR 51).

(*iv*) Pointed butt ; quadrangular ; tongue-like tip (damaged); working edge all round and sharp ; 'step ' scars all over the body. (MDR 69).

(*v*) Pointed butt ; double pointed ovate ; pointed tip ; working edge sharp, wavy and all round ; 'step ' scars all over the body. (MDR 98). Fig. VII.

Stage III :—(4) Specimens belonging to this stage are thin, symmetrical and have shallow, small skimming scars on their surfaces, probably by the use of cylinder-hammer technique. The section at the maximum breadth is biconvex

and lenticular at the tip. 'Step ' technique is also used side by side. Following are the two main types :–

(*i*) Rounded trimmed butt; pear shaped ; symmetrical tongue-like tip ; working edge sharp, all round ; small, shallow, skimming scars on the body. 'Step ' technique used. (MDR 53). Fig VIII. One of the finest specimens.

(*ii*) Rounded butt ; almond shaped, symmetrical ; narrow rounded apex ; skimming scars, 'steps ' present. (MDR 48).

2. Unifacials : (16) These are either on

(a) End flakes (5) or

(*b*) side flakes (11).

In shape and size these are very similar to the bifacials Stage I with the only difference that these are only worked on upper side and the lower side shews a prominent bulb of percussion either on the butt end or on the side. Technique is ' step ' plus bold flaking.

Following are the types :

(*i*) Rounded butt ; pear-shaped ; pointed tip ; working edge sharp. wavy and all round except the butt ; on end flake, (MDR 87).

(*ii*) Rounded trimmed butt ; pear-shaped ; symmetrical ; tongue-like tip ; hump in the centre ; working edge all round, sharp and wavy ; on side flake. (MDR 81). Fig IX.

(*iii*) Pointed butt ; double pointed ; symmetrical ; pointed tip ; working edge all round ; on side flake. (MDR 11).

II. *Cleavers*

These are only about one third in number to those of the hand axes. These are on Clactoninan types of

(*a*) End flakes (16)

(*b*) Side flakes (7)

(*c*) Indeterminate (their bulbs removed) (8).

According to shape these can be further classified into following types :- -

(*i*) U-shaped, rounded trimmed butt, flaring working edge ; only upper side worked ; (MDR 85), Fig. X.

(*ii*) U-shaped, rounded trimmed butt, parallel sides with straight working edge, only upper side worked. (MDR 60).

(*iii*) U-shaped, rounded butt with oblique working edge. (MDR 123).

(*iv*) V-shaped, pointed butt ; flaring edge. (MDR 116), Fig. XI.

(*v*) V-shaped, pointed butt, round working edge. (CKL 168).

(*vi*) Rectangular, straight butt ; flaring working edge. (MDR 127).

III. *Flakes*

These are all wide-angled showing prominent bulb of percussion and having simple unfaceted platform, flakes taken out from the core by block on block technique. These are of two types :

(*i*) Worked on the upper surface (18).

(*ii*) Completely unworked (16).

IV. *Cores*

These are of two types :

(*i*) Big polyhedral cores with large flakes removed. (5).

(*ii*) Smaller, oval shaped cores with carefully removed small flake scars on both the faces. These all have the sharp working edge all round. (11).

V. *Pebble-Scrapers* (8).

These scrapers are on pebbles. Elongated pebble is taken and one side chipped. The other side left as such with the pebble surface. These are very crude in techique as well as in shape.

VI. *Discoids* (2)

These are thin, small round disc-shaped, worked carefully on both sides with controlled flaking.

Since this is a preliminary study of the Shivna Industry, it is not possible to illustrate all the types. However, twelve best implements have been illustrated, taking at least one from each stage of each category of implements.

Conclusions

From the above study, the following main conclusion may be drawn :—

(1) Shivna Industry is a mixed sort of Industry in the sense that no vertical divisions can be created between Hand Axe Industry and Flake Industry.

(2) The main types are Hand-axes, on core or pebble and on Flake—bifacial as well as unifacial—and cleavers on flakes.

(3) All the three techniques are used

(*i*) Block on block technique

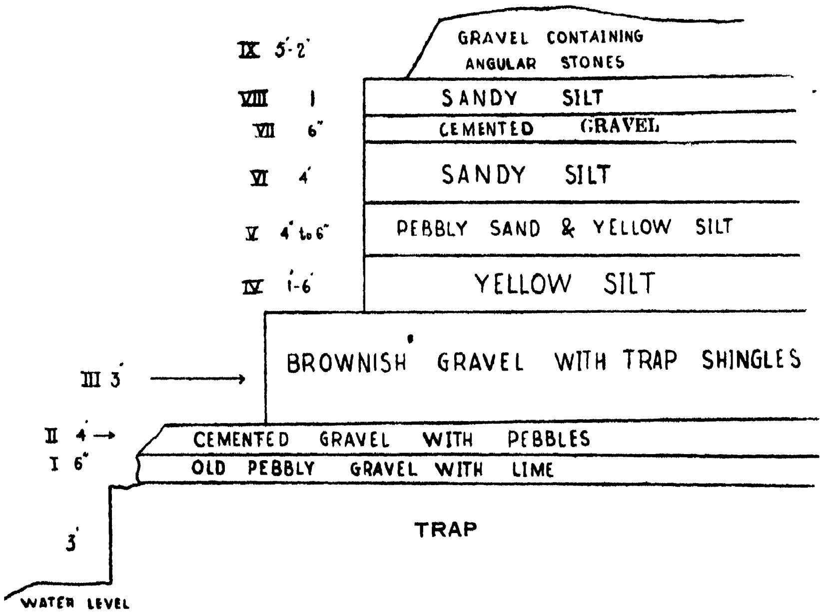
(*ii*) 'Step' technique, and

(*iii*) Cylinder hammer technique.

(4) S-twist is also seen in some implements which appears in Europe during the Mindel—Riss interglacial and is an important feature of the Middle Acheulean.[12] In Africa it is an intrusive element in the late middle Acheulean during the Kanjeran pluvial.[13]

From these observations it may be concluded that the Shivna palaeolothic industry is of Acheulean type though it contains many Abbevellian forms of hand-axes. In view of the large number of well-chipped tools and the use of cylinder-hammer technique it seems equivalent to those of Late Acheulean implements in Europe and Africa. In India, Malaprabha palaeolithic industry[14] is very similar to it.

12. LEAKEY, L.S.B., *Adam's Ancestors*, p. 77.
13. *Ibid.*, p. 91.
14. JOSHI, R. V., *Pleistocene Studies in the Malaprabha Basin*, DCDS, No. 15 Poona, (1955). p. 102.



SECTION ON THE LEFT BANK (GOING DOWN-STREAM) OF RIVER SHIVNA, EAST OF BILOD VILLAGE NEAR NAHARGARH

Fig. 1

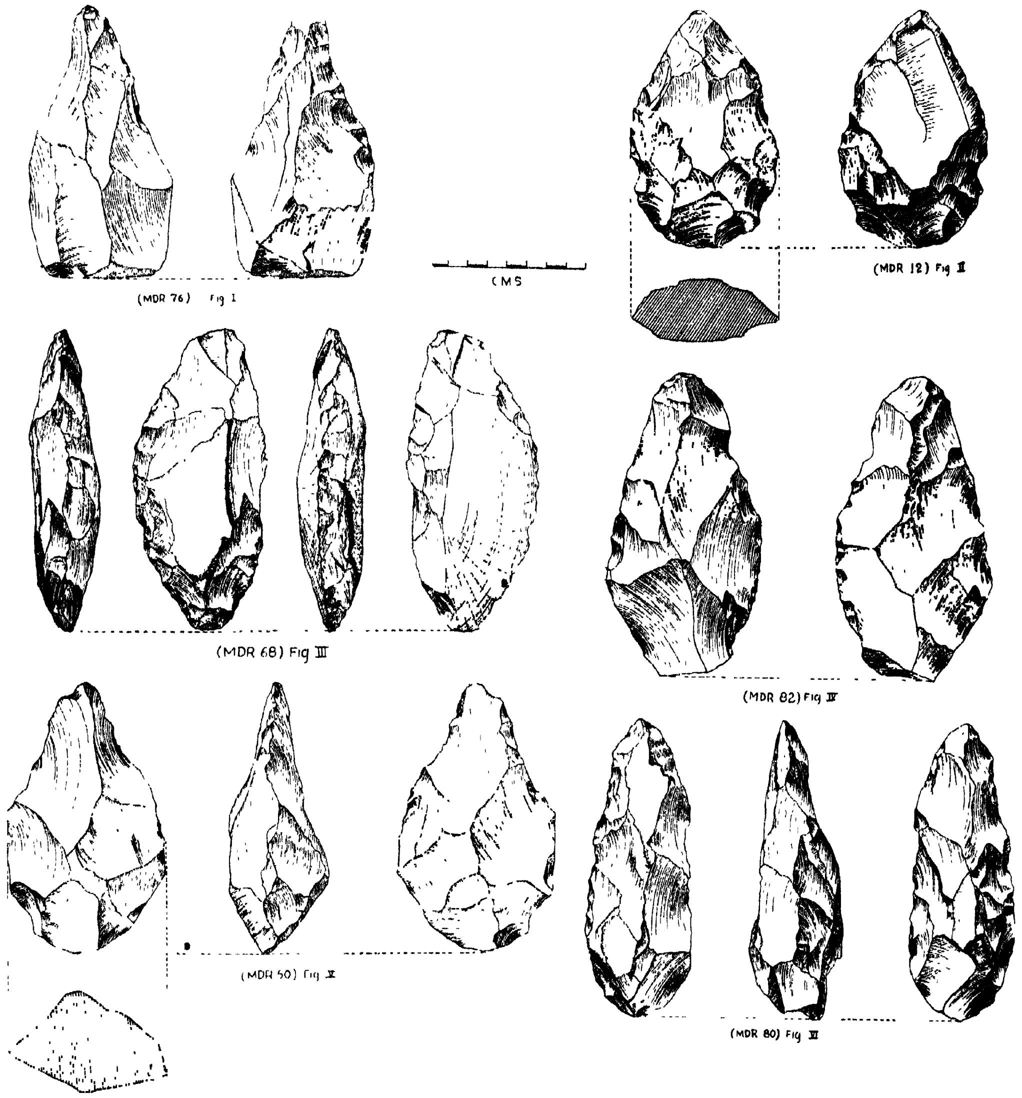


Fig. 2 (I to VI)

Palaeolithic Industry of R. Shivna.

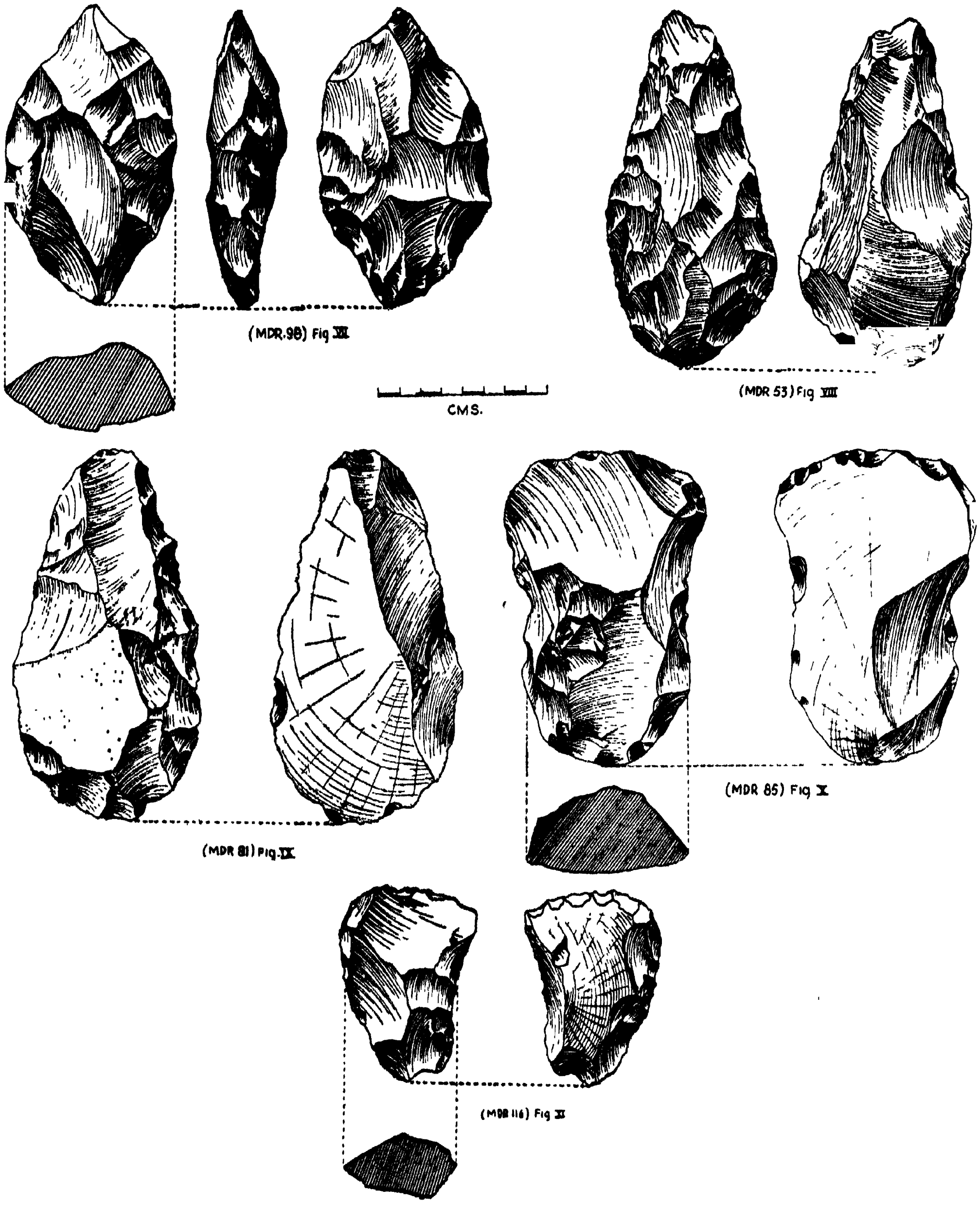


Fig. 8 (VII to XI)

Palaeolithic Industry of R. Shivna.

CULTURAL SIGNIFICANCE OF THE PERSONAL AND PLACE NAMES FROM VĀKĀṬAKA INSCRIPTIONS

By

SHOBHANA GOKHALE

Personal names have played and even now play an important part in the cultural history of India. Generally the names give information about the race, religion and caste and other cultural traits of the person.

Previous Studies

So far, names of persons from Gujarat[1] and the Deccan[2] inscriptions have been studied. It is now proposed to study similarly the place and personal names from inscriptions of Madhya Pradesh, ranging over a period of ten centuries (300—1300 A.D.). Here a beginning is made with the records of the Vākāṭakas.

The Names of Kings

The royal names in the available Vākāṭaka inscriptions throw light on their caste and provenance. Out of twenty-one inscriptions, eleven mention that the Vākāṭakas belonged to *Viṣṇuvṛiddha gôtra*. This is mentioned for the first time in the records of Pravarasena II. Why should this be so? Does this suggest that the later members of the family sought to trace their descent from an ancient Brahmanic *gôtra*?

In the Sūtra Period *Śrauta Sūtras* of Āpastamba[3] and Baudhāyan mention *Viṣṇuvṛiddha*. So it is clear that this is a Brahmanic *gôtra* and the Vākāṭakas who profess to belong to this *gôtra* were originally Brāhmaṇas. It may further be said that they were Ṛigvedins[4] or Kṛṣṇa Yajurvedins, because *Viṣṇuvṛiddha gôtra* occurs only among the lists of these Brāhmaṇas.

According to *Vāyu Purāṇa*[5] Vindhya-Śakti, the founder of the Vākāṭaka dynasty flourished near East Malwa.

The name of Vindhyaśakti suggests that the king flourished in the vicinity of Vindhya.

1. SANKALIA, H. D., *Studies in the Historical and Cultural Geography and Ethnography of Gujarat.*
2. SANKALIA, H. D., "Cultural significance of Personal Names in the Early Inscriptions of the Deccan." *BDCRI* III pp. 840-91, also MULAY, Sumati, *Studies in the Historical and Cultural Geography and Ethnography of the Deccan.* (Ph.D. Thesis, Poona University, 1954).
3. GARBE, XXIV, 819.
4. CHITRAVA Siddheśwaraśāstri, *Deshastha Rigvedi Brāhmaṇa Parichaya Grantha*, p. 206.
5. APTE, H. N. (Ānandāśramasanskritagranthāvali) *Adhyāya* 99, *sloka* 363.

'*Tatah Kôlikilebhyaśch Vindhyaśaktirbhaviṣyati*'—*Vāyūpurāṇa*.

However, Purāṇic account and the very name of founder Vindhyaśakti as well as the names of later kings of the dynasty suggest that the dynasty was Kṣatriya. *Vāyupurāṇa* includes Vindhyaśakti among Yavana kings, as Kôlikilas are styled Yavanas. It shows the absorption of the foreigners in the Indian culture, who adopted the Indian religion, customs etc.

Viṣṇuvriddha Gôtra :—JAYASWAL[6] mentions that *Viṣṇuvriddha* is a sub-division of the Bhāradvajas, but BROUGH states that *Viṣṇuvriddha* is the sub-division of Kevala-Āṅgirasa.

This name is also important from anther point of view. Probably this is the earliest epigraphical reference to the Viṣṇuvriddha gôtra.

Now the *Kauśitaki Brāhmaṇa* mentions *Vārṣṇivriddha gôtra*. Hence BROUGH[7] remarks " As against Vārṣṇivriddha, the Sūtra lists all have Viṣṇuvṛddha, a form of which is further supported by later inscriptions. Here the replacement of Vṛṣṇi by Viṣṇu may have been assisted by a semi-prakritic form Visṇi. Does this consideration help to explain the apotheosis of the pastoral hero Kṛṣṇa of Vṛṣṇi race as an incarnation of Viṣṇu rather than of some other deity ? "

It may mean that the deification of Kṛṣṇa as Viṣṇu took place between the composition of the *Kauśiṭaki Brāhmaṇa* and the Vākāṭaka period ; and since Vṛṣṇi is one of the names of the Yādava tribes to which Kṛṣṇa belonged, Vārṣṇi-vriddhas were kṣatriyas. It is possible that for this reason the Vākāṭakas, as kṣatriya, professed this gôtra.

Significance of Vākāṭaka Names

A majority of Vākāṭaka names have the suffix 'sena' ; Rudrasena, Prithiviṣeṇa.

Why did the Vākāṭakas adopt this suffix ? In the genealogies of the previous dynasties e.g., Nanda, Maurya, Kāṇva, Sātavāhana and Kārdamaka, we find that the 'sena' suffix is followed by the Kārdamakās. e.g., Rudrasena I and II and Prithiviṣeṇa. In the Vākāṭaka genealogy, we come across the names Rudrasena and Prithiviṣeṇa twice and only one name i.e. Gautamiputra reminds us of the name of the Sātavāhanas. The founder of the family, Vindhyaśakti flourished near about East Malwa and was the feudatory of the Śaka Mahāsatrapas. It is quite likely that he and the members in his family adopted the names of the sovereign rulers.

6. JAYASWAL, K. P., *History of India*, 150 A.D. to 350 A.D. p. 62.
7. *The Early Brahmanical System of Gotra and Pravara*, p. XIII

Names of the Vākāṭaka Queens

Epigraphs record only two names :

(*i*) Prabhavātī Guptā, daughter of Chandragupta II, wife of Rudrasena II and mother of Pravarasena II. The name Prabhāvatī Guptā indicates, that the queen came from the Gupta family.

(*ii*) *Ajjhita Bhaṭṭārikā* : She was the daughter of Kuntalādhipati, wife of Narendrasena and mother of Prithivisena II.

Names of Ordinary People

With the help of names of ordinary people, one may peep into political, social, ultural and ethnological history of a region.

Nearly all the Vākāṭaka inscriptions are land-grants, the recipients of which are Brāhmaṇas.

The epigraphs give the following information about the Brahmin donees :

(*i*) The Name of the donee.

(*ii*) The name of his father and sometimes his grandfather.

(*iii*) The *gôtra*

(*iv*) The Veda or its sub-branch professed by the donee.

(*v*) The place whence he came.

The names of the Brāhmaṇas consist usually of two parts : the name proper and the *Upapada* that is the suffix. Sometimes we come across double or triple suffixes. The first part of the name may be classified in the following way :

(1) Names after Deities.
(2) do Nakṣatra.
(3) do Religious tendency.
(4) do Planets.
(5) do Mountains.
(6) do Rivers.
(7) do Animals.
(8) do Spirits.
(9) do Tribes
(10) Miscellaneous Names.

The Vākāṭaka records seem to contain names after the following deities:

(1) Buddha, (2) Chakra, (3) Īśvara, (4) Kumāra, (5) Maheśvara, (6) Nāga (7) Nārāyaṇa, (8) Rudra, (9) Śiva, (10) Skanda, (11) Sôma, (12) Varuṇa, (13) Viṣṇu.

Buddhārya—There is only one name after Buddha. The person was an Atharvavedī Brāhmaṇa of Bhālandayana gôtra.

(*i*) *Chakradāsa*

(*ii*) *Chakradeva*

The names are borne by the engraver and the *dūtaka* respectively. Both of them might be devotees of Viṣṇu. The former, as the Upapada ' dāsa ' suggests, might be a Kāyastha or a Śūdra.

(*i*) *Kumārārya*

(*ii*) *Kumāraśarmārya*

These seem to be devotees of Kumāra or Skanda.

Only one name after Maheśvara e.g. Maheśvarārya is found in the inscriptions :

(*i*) Nāgaśarman.

(*ii*) Nāgavarman.

Names after Nāgas are found in the earliest inscriptions along with those of Śiva. Vākāṭakas lived at a time when Nāgās[8] were ruling in the Mathura region. Hence it is not surprising to find names after the Nāgas.

Nāgavarman[9] was the Senāpati of Pravarasena II.

(*i*) Nārāyaṇarāja.

This is the only name after Nārāyaṇa. There are only three names with the suffix Rāja. (*ii*) Kôṇḍarāja, (*iii*) Śatrughnarāja.

(*i*) Rudrārya.

(*ii*) Rudraśarman.

(*iii*) Rudraśarmārya.

(*iv*) Śivārya

(*v*) Skandārya.

There are three names after Rudra, and one after Śiva and two after Skanda

There is a name each after Soma and Varuṇa.

Names after Viṣṇu :

(1) Viṣṇu—Senāpati

(2) Viṣṇvārya—Brāhmaṇa

General Names :—Devārya, Īśvarārya, Īśvarśarman Môkṣaśarman, Prabhusiṁha, Śāntiśarman.

8. See SANKALIA, *op.cit.*
9. *E.I.*, XXIV. p. 267.

In this list, names after Īśvara might really stand for Śiva. For, names ending in Īśvara signify this deity.

A perusal of the Vākāṭaka *birudas* or titles indicates that they were generally followers of Śiva but later kings like Rudrasena II and Prithivisena II seem to have become devotees of Viṣṇu.

The name Kālidāsa occurs perhaps for the first time in epigraphs. Some four names—Kālidāsa, Kāliśarman, Gôladāsa, and Varārya seem to be after the goddess Kāli, Durgā, Pārvatī.

Names after religious tendency :

(1) Dharmārya.

Only one name of this kind is found.

Names after Planets :-

(*i*) Chandra

(*ii*) Chandrārya

(*iii*) Sūryasvāmin.

Names after Mountain :-

(*i*) Vindhyārya.

(*ii*) Drôṇārya.

The Vindhya mountain is not far from the headquarters of the Vākāṭakas. In order to denote the locality, strength and the hardiness, the name Vindhyārya is quite significant.

About the name Drôṇārya Drôṇa might be the famous mountain 'Drôṇagiri' in the *Rāmāyaṇa* or it might be after Drônāchārya of the *Mahābhārata*.

Names after Rivers :—

(*i*) Gaṅgārya.

Names after Nakṣatras :-

(1) Chitravarman.

(2) Jyeshṭhārya.

(3) Maghārya.

(4) Māghaśarman.

(5) Mūlaśarman.

(6) Revatyārya.

(7) Revatiśarman.

(8) Revatiśarmārya.

(9) Svātiśarman.

(10) Viśakhārya.

We do not get the names after any Veda or a sacrifice.

Names after Relation :-

(*i*) Bāppārya (Two names)

(*ii*) Pitrārya

(*iii*) Mātrārya

(*iv*) Mātṛśarman.

There are two names after Animals :-

(*i*) Gôvārya.

(*ii*) Vyāghradeva.

At present in Berar and Nagpur district, there is a sub-caste named *Gavāri* '. And if it is connected with Govārya, then we can trace the antiquity of this sub-caste to at least the 5th century A.D.

Names after Spirits :-

(*i*) Yakṣārya.

Names after tribes :-

(*i*) Bhojakadevārya.

(*ii*) Gôṇḍārya.

(*iii*) Gôṇḍaśarman

(*iv*) Gûhārya

(*v*) Gûhaśarman.

These five names give information and important evidence of the ethnic composition of the region. We know that ancient Vidarbha was colonized by the Bhôjas, a Yādava tribe.

It is also well known that the region is inhabited by the Gôṇḍas and Guha, both non-Aryan tribes. What is interesting is the addition of suffix ' Ārya ' to all the five names. Does it mean, that a Gôṇḍa had become a Brāhmaṇa ? Or does it signify that an Ārya Brāhmaṇa ministered to the Gôṇḍās and was called Gôṇḍārya ?

Miscellaneous Names :-

(1) Bhadrilārya

(2) Bhartṛ-deva-Ārya

(3) Bhartṛ—Śarman

(4) Jivārya
(5) Kaṇḍārya
(6) Kāluṭṭaka
(7) Kôṭṭadeva
(8) Manôratha-ārya
(9) Nandanārya
(10) Namidāsa
(11) Rôhārya
(12) Vasurārya.

The names Bhadrilārya and Manôrathārya show some good-wish.

Jivārya— The meaning[10] of the word ' Jiva ' is Viṣṇu, Karṇa, the name of the constellation Puṣya, Livelihood --profession. And it is possible that in Jīvārya we pose a name after the constellation Puṣya.

Gôladāsa : —Gôlā is the name of Durgā.[11] And it is quite likely that this person was a devotee of the goddess Durgā.

Kaṇḍārya[12] :—

The meaning of the root '*Kaṇḍa*' is to be glad or satisfied.

Kôṭṭadeva[13] :

Kôṭṭa A fort.

Rôhārya

Rôhaḥ[14] :—rising from smaller to higher denomination.

Vasurārya

Vasurā[15] :—harlot, prostitute.

Vēvandasvāmi.

These three names are difficult to interpret. It is not likely that a Brāhmaṇa would be named after a prostitute (vasurā).

Suffixes of the names of Brāhmaṇas

Ārya, Deva, Śarman.

Double suffix— Śarma -ārya.

Triples suffix—Svāmi— dēva—ārya.

10. Apte V. S., *Sanskrit English Dictionary*, p. 515.
11. *Ibid.*, p. 469.
12. *Ibid*, p. 372.
13. *Ibid*, p. 426.
14. *Ibid*, p. 918.
15. *Ibid*, p. 953.

Ārya is not specifically a Brāhmaṇa suffix. It is difficult to ascertain in what sense it was adopted by the Brahmanas in the Vākāṭaka and later periods. In the Ṛigvedic period the meaning of the word *Ārya* stood for the names of the first three castes. It is also used in the same sense in the *Atharva Veda*. The *Vājasaneyi Saṁhitā*, the *Mahābhārata* and even the *Pañchatantra* use it in the same sense. However, in the *Rāmāyaṇa*, *Manusmṛti* and in the *Śākuntala* it is used in the sense of "honourable, respectable, noble" respectively. Probably the *Brāhmaṇas*, at least from the first century onwards seem to have used the suffix 'ārya' in this sense.

In the pre-4th century Brāhmi inscriptions, Ārya[16] appears as a prefix in the names of Jain monks and nuns and teachers from Mathura. But in the post-4th century records, as mentioned before, the most common suffix was-Ārya. Among the Vākāṭakas, the Traikuṭakās, the Kālachuryas, the Badāmi Chalukyas, the Rāṣṭrakūṭas, the Kalyāṇi Chālukyas, the Śilāhāras of N. and S. Kônkaṇa, Kôlhāpur and the Yādavās,[15a] the Vākāṭakas were the first who adopted this honorific suffix 'Ārya'. In Gujarat this suffix can be traced in the Rāṣṭrakūṭa and Maitraka records.

In the present population of Central Provinces, there are certain names, the antiquity of which might be traced back to the Vākāṭaka inscriptions :-

Inscriptional Names	*Present Names*
SANSKRIT	PRAKRIT
Bappārya	Bāppāji
Bhadrilārya	Bhāḍalāji
Buddhārya	Budhāji
Chandrārya	Chandāji
Dêvārya	Devāji
Dharmārya	Dharmāji
Drôṇārya	Dômāji
Gaṇārya	Gaṇāji
Gaṅgārya	Gaṅgāji
Goṇḍārya	Goṇḍāji
Iśvarārya	Esāji
Jīvārya	Jivāji
Jyeṣṭharya	Jeṭhāji
Kumarārya	Kuñvarji
Maghārya	Maghāji
Nagārya	Nagôji
Rudrārya	Rôḍāji
Skandārya	Khaṇḍôji
Vindhyārya	Beṇḍāji

15a. MULAY, *loc.cit.*
16. LUDERS "List of Brahmi Inscriptions from the Earliest Times to About 400 A.D *I A X*. Appendix. p. 182.

This list of the ancient names and their probable modern equivalents was examined by Dr. S. M. KATRE from the linguistic point of view. He holds that if intermediate form from *Arya Āryya Ajjya ajjia Āji* can be found then the names Bāppāji, Dēvāji can be derived from Bāppārya, Dêvārya, respectively. There is no difficulty about deriving the first part of the name. These, e.g. Chanda from Chandra, Jeṭha from Jyeṣṭha, are correct Prakrit derivatives. But if complete evidence is obtained for deriving *āji* from *ārya*, then we shall be able to explain a large number of names with these endings which occur in inscriptions and otherwise from the 14th century onwards. In the names like Khaṇḍôji, Nāgôji, the occurence of the intervocative 'o' is an additional problem, which requires further investigation.

Conclusion

This survey has shown that :

(*i*) Vākāṭakas might be of foreign extraction, who later traced their descent from Kṣatriya—Brāhmanic *gôtra*. *Vārṣṇivṛddha* and *Viṣṇuvṛddha*.

(*ii*) Whatever be their origin, by the 5th century they had adopted names with Kṣatriya suffixes like *sena*.

(*iii*) Among the names of Brāhmaṇas, there is a large percentage of names after Nakṣatras, some after Rudra, Śiva and Skanda, a few after Nāga, and one each after Nārāyaṇa, and Sūrya.

This evidence is in perfect accord with what we know of the naming practices from Gujarat[17] and the Deccan[18] and shows once again how the injunctions of certain *Gṛihya Sutras* like *Mānava*[19] forbidding giving of names directly after a deity were violated. However, the practice of naming after a *nakṣatra* which can be traced back through the Sutra period to the Vedic, was still observed by a majority of the people. The solitary names after Nārāyaṇa indicate the growing popularity of the various forms of Viṣṇu at this period. Most significant name, however, from the antiquity of certain non-āryan tribes and their Āryanization is Gôṇḍārya.

17. SANKALIA, *loc.cit.*
18. MULAY, *loc.cit.*
19. SANKALIA, op.*cit.* p. 102.

Administrative System of the Vakatakas

From the Gupta-period onwards India had a fairly common administrative sytem in which *rāṣṭra, viṣaya, bhukti, āhāra,* and *grāma* formed the principal units. The Vākāṭakās followed the same system. The following administrative units can be ascertained in the available Vākāṭakā inscriptions e.g. *rāṣṭra, rājya, viṣaya, bhukti, bhôga, bhāga, āhāra, paṭṭa* and *saṅgamikā.* We have no direct and detailed information about the relationship between these units and so it is difficult to place them in an exact descending order. They may be arranged as mentioned above. *Rāṣṭra* must be the highest unit. We do not find the term '*Saṅgamikā*' in the inscriptions of Gujarāt[1] and the Deccan[2] in so early a period. It seems that under the Gurjjara dynasty the unit *Saṅgamakheṭaka* e.g. country between the two rivers was in use. The Gurjjara dynasty was later than the Vākāṭakās. Among the rulers of Gujarat, Deccan and Madhya-Pradesh, the Vākāṭakās seem to be the first who used the term '*Saṅgamikā*' e.g. Chandrapura Saṅgamikā.[3]

The terms for the administrative officers are as follows :-(i) *rājyādhikṛita* (ii) *senāpati,* (iii) *dutaka,* (iv) *rājuka.* The term *rājuka* is worth noting. This feature has been noticed already by SALETORE.[4] It occurs in only one record, but it is strange that it should appear at all after nearly 600 years. The Guptās[5] influenced by the Kushāṇas adopted many foreign features in their administrative machinery. The Vākāṭakās were more in the south and hence might have retain this Aśokan official term.

Place-names in the Vākāṭaka-period

The inscriptional place-names of the Vākāṭaka period are mostly in Sanskrit and a few in Prakrit. The suffixes of Vākāṭaka place-names are as follows :-

(*i*) grāma (*ii*) nagara (*iii*) 'pura (*iv*) puraka (*v*) palli (*vi*) pedhaka (*vii*) kheṭa (*viii*) kheṭaka (*ix*) vāṭa (*x*) vāṭaka.

The suffixes *grāma,*[7] *pura*[8] are in use from the Ṛigvedic period. The Suffixes *nagara,*[9] *kheṭa,*[10] *kheṭaka* are found in the *Mahābhārata* and the *Vishṇupurāṇa* respectively. Pāṇini[11] also mentions *nagara, pura kheṭa* and *grāma.*

1. SANKALIA, H. D., *loc.cit.*
2. MULAY SUMATI, *loc.cit.*
3. See Dudia Plates of Pravarasena II, *E.I.* III, p. 261.
4. See SALETORE, R. N., *Life In The Gupta Age*, p. 261.
5. See MAJUMDAR, R. C., *The History and Culture of the Indian people : The Classical Age.* (Bombay, 1954). p. 353.
6. DANDEKAR, R. N. *A History of the Guptas*, p. 198.
7. MONIER-WILLIAMS, *Sanskrit-English Dictionary*, p. 373.
8. *Ibid.*, 635.
9. *Ibid.*, 525.
10. *Ibid.*, 340.
11. AGRAWALA, V. S., *India as known to Pāṇini*, p. 63, 64.

Palli—In Gujarat we meet with the suffix 'palli' for the first time in a Traikūṭaka record[12] and in the Deccan it is found in a Badāmi Chālukya record.[13]

Pedhaka :—In the inscriptions of Gujarat and the Deccan we do not find the suffix *Pedhaka* but we meet with this suffix in the Vākāṭaka inscription e.g. *Mallaka-pedkhaka* in Tirodi Plates of Pravarasena II.[14]

In Mahārāṣtra the word *Peṭha* is used for a section of the village or town. In Berar it is used for the section of the village and also as the suffix of the village e.g. Sirasgaon-peṭha, Nandagaon-peṭha. In Saurashtra the suffix *Peṭha*, is found in a Valabhi grant[15] e.g. Dīpanaka-peṭha.

The place-names may fall into the following groups :-

(*i*) Place-names after animals.

(*ii*) do metals.

(*iii*) do mountains.

(*iv*) do planets.

(*v*) do trees and grass.

(*vi*) Miscellaneous Names-

The Vākāṭaka records seem to contain names after the following metals :-

(*i*) Hiraṇyapura (gold). (*ii*) Lôhanagara (iron).

Names after animals :—(*i*) Mṛigasīma (*ii*) Maṇḍukīgrāma.

Names after mountains :—Śailapura.

Names after planets :—Candrapura.

Names after trees and grass :—(*i*) Aśvaṭṭhakheṭaka (*ii*) Aśvaṭṭhanagara (*iii*) Ciñcapalli (*iv*) Vaṭapuraka (*v*) Darbhavīraka (*vi*) Darbhamalaka.

All the Vākāṭaka place-names cannot be indentified. I would like to propose identifications of the following :

Inscriptional place-name	*Modern equivalent*[16]
Brahmapuraka	Brāhmaṇawāḍā 55 $\frac{G}{16}$
Kiṇihikheṭaka	Kinhāla 55 $\frac{K}{4}$

12. SANKALIA, H. D., *loc.cit.*
13. MULAY, SUMATI, *loc.cit.*
14. See *E.I.* XXII, 172.
15. *I.A.* XV, 187.

Inscriptional place-name	*Modern equivalent*[16]	
Kôllapuraka	Khôlapura	55 H/9
Pavarajjavāṭaka	Paratawāḍā	55 G/11
Varadakheṭaka	Varakheḍa	55 K/4
Vaṭapuraka	Vāṭhapura	55 H/9
Yaśapura	Jasāpura	55 G/11

Brahmapuraka, Kôllapuraka, Pavarajjavāṭaka, Kiniliikheṭaka and Vaṭapuraka are mentioned in Siwani Copper-plate Inscript on of Prevarasena II.[17]

The identification of Kollapuraka with modern Kholāpur can be well justified.

Fleet identified Kôllapuraka with Khôḷāpur in Ellichpur taluka. But Mirashi identified it with modern Koolpā, about 36 miles to the east of the Waingaṅga in the Amgaon Zamindari. This does not seem to be right as the identification of the rest of the villages would show.

If we accept Fleet's identification, then Pavarajjavāṭaka may be the present Paratawāḍā (55, G/11) Vaṭapuraka is Vāṭhapura (55, H/9) in Amravati taluka. There are at least half a dozen place-names which bear the prefix Brahma, Brāhmaṇa ; so the nearest to Pavarajjavāṭaka and Kôllapuraka should be accepted. Brahmapuraka may, therefore, be identified with Brahmaṇawāḍā, approximately twenty miles from Paratawāḍā. Kiṇihikheṭaka is likely to be identified with modern Kinkheḍa 55, II/16 in Murtizapura taluk. According to the description in the inscription kiṇihikhetaka is to the east of Brahmapuraka and Kinkheḍa is to the west of Brahmapuraka. Since it is completely in the opposite direction it may therefore be rejected. It might be modern Kinhāla in Wardha dist.

The advantages of the proposed identification are that all the villages are in the directions mentioned in the inscriptions ; secondly, almost all are in close proximity.

Moreover Brahmapuraka and Kôllapuraka are stated to be in Bēṇṇākārpara -Bhāga. It may be a sub division of Bēnnākāṭa, a territory around Waingaṅgā,

16. *Government of India Map, published by the Survey of India.*
17. See *C.I.I.*, III, p. 245.

but here, Bēṇṇā may be identified with the Beṁbaḷā. Bhāga is not a big territorial unit, so the small river Beṁbalā might be a geographical boundry, and the places would be situated in its upper portion.

Madhunadi[18] : - Madhunadi may be the present Māḍu river. The Vākāṭaka grāma viz. Charmaṅka is not far from this river and Śailapura is on the bank of Māḍu river.

Varadakheṭaka is mentioned in Paṭṭan Plates of Pravarasena II[19]. It may be be identified with Varakheḍa 55K[20]/4. The inscription mentions it in Lôhanagarabhāga which is identified with Lôṇi by MIRASHI. Varakheḍa is about 35 miles to the south-west of Lôṇī.

Thus the Vākāṭaka dominion would have comprised the modern districts of Akolā, Buldhāṇā, Amrāvatī, Yeotmāl, Wardhā, Nāgpur, Chāndā, Betul, Siwanī, Chhindawārā, Bālāghāta and Bhanḍārā. In the present studies, I have identified some villages of Amravati district and one village, Kinihāla, in Wardhā district.

18. *J.B.O.R.S.*, 472.
19. *E.I.* XXIII, 86.
20. *Government of India Map, published by the Survey of India.*

AUTHORSHIP OF THE BALABODHINI ASCRIBED TO SAMKARACARYA

By

MALATI GOKHALE

The *Bālabodhinī* is, one of the many works which are ascribed to Śaṁkarācārya but which are not printed as yet.[1] It is a very small work in prose form. It is devoted to teach the doctrines of the Advaita philosophy, in brief, to beginners. Two other works bearing similar titles, which also are in prose form and which are devoted to teach the Advaita philosophy to beginners, are attributed to Śaṁkarācārya; one of them is the *Ajñānabodhinī* which is printed by the Nirṇayasāgara Press, Bombay, under the name *Adhyātmavidyo padeśavidhi* in 1936. The other one is the *Bālabodhasaṁgraha*. It is not printed as yet; but the Tanjore Sarasvatī-mahāla Library possesses its two manuscripts.[2] The *Bālabodhinī* is quite a separate work from these two.

Manuscripts of the Work

In different catalogues of mss. we come across the following eight mss. of this work.

1 and 2) The mss. which belong to the Tanjore Sarasvati-mahāla Library[3]
3 to 6) The mss. which belong to the Bhandarkar Oriental Research Institute and which bear the numbers 282 A of 1879-80, 771 of 1891-95, 772 of 1891-95 and 615 of 1884-87

7 and 8) The mss. which belong to the India Office Library, London, and which bear the numbers 2300 and 7988[4]

Commentaries

Only one commentary on this work is noticed so far; its ms. is in the possession of the Bhandarkar Oriental Research Institute: the name of the commentary as well as the name of the author of the commentary are not known. The *Catalogues Catalogorum* by AUFRECHT[5] and the *Notices of Sanskrit Manuscripts* by Rajendralal

1. Emeneau's Catalogue mentions a work called *Bālabodhinī* written by Śaṁkarācārya and printed in Bonnae in 1833 A.D. It is very difficult to verify the identity of this work with the *Bālabodhinī* which we are going to deal with in this article.
2. cf. The Catalogue of manuscripts in the Tanjore Sarasvatī-mahāla Library; Volume XII nos. 7318 and 7319
3. cf. nos. 7320 and 7321 in Volume XII of the Cataloge of Mss in the Tanjore S. M. Library.
4. The *Catalogus Catalogorum* by AUFRECHT refers to some more mss. under the title *Bālabodhinī* by Śaṃkarācārya but it is difficult to verify the identity of the works in those mss. with the *Bālabodhinī* which we are describing at present.
5. *Cf.* Vol I.

MITRA mention a commentary called *Bālabodhinībhavaprakāśikā* written by Rāmacandra Sarasvatī but Fitzedward HALL, in his book '*A Contribution towards an Index to the Bibliography of the Indian Philosophical Systems*', states that the commentary *Bālabodhinībhāvaprakāśikā* is nothing but the notes on the work *Bālabodhinī* of Śaṁkarācārya which is said to summarize the logical portions of the *Śārīraka-mīmāṁsā-bhāṣya*. Hence it is evident that the commentary *Bālabodhinī-bhāvaprakāśikā* by Rāmacandra Sarasvatī has no connection with the work *Bālabodhinī* with which we are dealing at present.

Titles of the Work

The work is described in the colophons at the end of the mss. mentioned before, with the names *Bālabodhinī*, *Bālaprabodhinī*, *Bahirmukhāntaḥpravaṇa-Bālabodhinī*

The name *Bālabodhinī* is given in the colophons of six different mss.

(1) *Iti Śrī-Śaṁkarācāryaviracita-Bālabodhinī samāptā.* (cf. ms. no. 7320 of vol. XII of the Catalogue of mss. in the Tanjure S. M. Library).

(2) *Iti Śrī-Śaṁkarācārya-viracitā Bālabodhinī* Samāptā. (ms. no. 2300 of the India Office Library, London).

(3) *Iti Śrīparamahaṁsa parivrājakācārya Bhagavatpādapūjyaśiṣya-Śaṁkara-Bhagavataḥ kṛtau Bālabodhinī-dvitīyakaivalyaṁ samāptam.* (ms. no. 7988 of the India Office Library.

(4) *Iti Śrī mat paramahaṁsaparivrājaka-Govindabhagavatpāda-śiṣya-Śaṁkara-bhagavataḥ kṛtau Bālabodhinī samāptā* (ms. no. 772 of 1891-95 of the Bhandarkar Oriental Research Institute)

(5) *Iti Śrīmatparamahaṁsa.........Govinda......Śiṣya-Śaṁkarabhagavatkṛtā Bālabodhinī Samāptā* (ms. no. 282 A of 1879-80 of the Bhandarkar Oriental Research Institute)

(6) *Iti Śrī-Śaṁkarācāryaviracitaṁ Bālabodhinī prakaraṇaṁ Samāptam* (ms. no. 771 of 1891-95 of the Bhandarkar Oriental Research Institute.)

The name *Bālaprabodhinī* is given in the colophon of the ms. described under no. 7321 of volume XII of the catalogue of Mss. in the Tanjore S. M. Library--

"*Iti Śaṁkarācāryaviracita-Balaprabodhinī Samāptā.*"

The name *Bahirmukhāntaḥpravaṇa Bālabodhinī* is mentioned in the colophon at the end of the ms. no. 615 of 1884-87 of the Bhandarkar Oriental Research Institute :-

Iti Srīsaṁkṣiptavedāntaśāstraprakriyāyāṁ bahirmukhānthpravaṇa-Bālabodhinī Samāpteti

The contents of the Work

The work consists of two chapters. The first chapter states that the soul which is eternal, unchangeable, without a second and consists of knowledge only is the only reality but its real nature is concealed by *Avidya*, which projects the world of phenomenon on it. It then describes the nature of *Avidyā Īśvara* and the Individual soul, and the world. Following are the important details given in this chapter about the nature of *Avidyā, Īśvara* and the Individual Soul. *Avidyā* is of empty nature. It is non-existent like a lotus in the sky or the horn of a man. still *Avidyā* and its work appear as true like a dream or an illusion created by magic. *Avidyā* takes its stand upon the Supreme Spirit (*Kūṭastha cid*) and has that very spirit as the object of its ignorance just as darkness in an inner apartment has that apartment both for its substratum as well as for its object. *Avidyā* consists of three qualities viz. *Sattva, Rajas* and *Tamas*. The Supreme Spirit (*Kūṭastha cid*) is reflected in it just as an object near a clean mirror is reflected in that mirror. The reflection of *Kūṭastha cid* in the portion of the quality *sattva* in *Avidyā* is called *Īśvara*, the creator and the ruler of the world. The qualities of *Īśvara* such as omniscience, omnipotence etc. are due to the predominence of the quality *Sattva* in his adjunct. The adjunct of *Īśvara* gives birth to an adjunct in which the qualities *Rajas* and *Tamas* are predominent. The Individual Soul is the reflection of *Kūṭastha cid* in this adjunct created by the adjunct of *Īśvara*. As the qualities *Rajas* and *Tamas* are predominent in the adjunct of the Individual Soul, it is ignorant of the Reality and considers itself as the doer, the enjoyer and as the one who is happy or unhappy.

The second chapter is mainly devoted to describe the means of removing the bondage of *Avidyā*. In the beginning it emphasises the importance of the purification of mind ; then it describes the four famous requisites for being entitled to know *Brahman* viz. the discrimination between what is eternal and non-eternal etc. After this it describes the nature and the importance of the acts *Śravaṇa* (hearing), *Manana* (thinking) and *Nididhyāsa* (meditating) which lead to the intuitive knowledge of the Supreme Being. Lastly it deals with the question why a person having intuitive knowledge of the supreme reality continues to live in this world.[6]

Authorship

The colophons at the end of all the mss. of this work described before, mention that the work is written by Śaṁkarācārya. The colophon at the end of one ms.viz. the ms. no. 7988 of the India office Library, London, refers to this Śaṁkarācārya as a pupil of some ascetic of the highest order —

Iti Śri paramahaṁsa—parivrājakārya—bhagavatpāda-pūjyaśiṣya-Śaṁkara-bhagavataḥ kṛtau Bālabodhinī dvitīyakaivalyaṁ samāptam. **The colphons at the**

6. *Cf.* Vol. I no. 175.

end of two mss. in the Bhāndarkar Oriental Research Institute give further information that the name of the ascetic who is the teacher of Śaṁkārācārya, the author of the *Bālabodhinī*, is Govinda- -

Iti Śrīmat paramahaṁsa-parivrājaka-Govinda-bhagavatpāda-śiṣya-Śaṁkara-bhagavataḥ kṛtau Bālabodhinī samāptā (ms. no 772 of 1891-95).

—*Iti Śrīmatparamahaṁsa......Govinda......Śiṣya-Śaṁkara-bhagavatkṛtā Bālabodhinī samāptā* (ms. no. 282 A of 1879-80).

As Ādi Saṃkarācārya is well-known to be a pupil of an ascetic called Govinda, the *Bālabodhinī* is likely to be held as a genuine work of Ādi Śaṁkarācārya on the basis of these two colophons but in our opinion it is definitely a product of some later Śaṁkarācārya on account of the following reasons :

(I) The colophon of a ms. of a work which describes that work as a composition of Śaṁkarācārya, the pupil of an ascetic called Govinda, cannot be considered as a sure criterion for deciding the authorship in favour of Ādi Śaṁkarācārya. Several works such as *Prabodhasudhākara Sarvavedāntasiddhāntasārasaṁgraha* etc. which are attributed to Śaṁkarācārya the pupil of an ascetic called Govinda, in the colophons of their several mss. can be easily proved as non-genuine works of Ādi Śaṁkarācārya on the basis of their internal[7] as well as external evidence[8].

(II) Most of the mss. of the *Bālabodhinī* that are noticed so far refer to the author of the work as Śaṁkarācārya in general and do not give any specific information on the basis of which we can identify this Śaṁkarācārya with Ādi Śaṁkarācārya.

(III) The commentary on the work, also, does not supply us with any specific information about Śaṁkarācārya, the author of the *Bālabodhinī*.

(IV) The internal evidence of the work clearly indicates that the work is writtern by some person other than the author of the *Brahma-Sūtra-Śārīraka-Mīmāṁsā-Bhāṣya* (BSB). Following are the detailed arguments, based on the internal evidence of the work, for proving the impossibility of Ādi-Śaṁkarācārya the author of BSB, as being the author of the *Bālabodhinī*.

(*i*) *Avidyā*, the power which conceals the real nature of the supreme Spirit and which causes it to appear as the world of phenomenon, is described in this work, as *tuccha*- ' of empty nature ' and is compared with absurd ideas like a lotus in the sky and the horn of a man. Both *Avidyā* as well as its work are described herein as nothing but mere illusions --

7. *Cf.* the paper on the Prabodhasudhākara submitted by M. GOKHALE to the 17th session of the All-India Oriental conference.

8. *Cf.* Dr. RAGHAVAN's articles in Adyar Library Bulletin, vol. I, part I, pages 42 to 47 and Annalsof Oriental Research Vol. VI, part I.

—"*Cidghanaikarasasya paramātmanaḥ naraviṣāṇasadṛśāt avastunaḥ tucchāt ajñānāt āvaraṇavikṣepau kathaṁ saṁbhāvyete. Yathā gaganāravindaṁ surabhi iti ukte gaganāravindasya asataḥ surabhitvaṁ kutaḥ. Etat sarvam avidyā tatkāryam āvaraṇavikṣeparūpam vastugatyā nāsti eva. ajñānātmanor avivekāt bhramamātra-siddham.*"

In BSB we do not come across even a single instance in which *Avidyā* is either mentioned as tuccha or is compared with absurd ideas like a lotus in the sky or the horn of a man.

(*ii*) *Avidyā* is described in this work as having the soul which is without a second (i.e. Brahman), both for its substratum as well as for its object.

Tadāśrayā tadviṣayā vastv anādyavidyā, yathā garbhāgāram andhakārasya viṣayāśrayau.

This description of *Avidyā* seems to have come forth from some person belonging to later time as the very controversy regarding whether *Brahman* is both the substratum as well as the object of *Avidyā* or *Brahman* is merely the object of *Avidyā* and the individual soul is its substratum, is a later one. It is therefore impossible that Ādi Śaṁkarācārya had explicitly stated the view mentioned in the *Bālabodhinī* on account of the following reasons :

(*a*) The BSB nowhere explicitly states its view in this connection.

(*b*) Vācaspatimiśra, an early follower of Ādi Śaṁkarācārya, puts forth the view that is quite opposite to the view of the *Bālabodhinī*

(*c*) The author of the *Kalpataru* claims that the view of Vācaspatimiśra is stated by Ādi Śaṁkarācarya himself,[9]

"*Ajñātanaṭavat Brahma kāraṇaṁ śaṁkaro bravit, jīvājñātaṁ jagodbījaṁ jagau vācaspatis tathā*"

(*d*) In the BSB, *Īśvara* is directly stated as the "*Āśraya*" (substratum) of *ákṣara i.e. Māyā* but as there is no explicit statement about *Brahman's* being both the substratum as well as the object of *Avidyā*, the followers of the view of Vācaspati- miśra interprete the word *Āśraya* used in this connection as 'the object' and claim that the BSB supports their own view.[10] This clearly indicates that these followers of Vācaspatimiśraś view are not ready to admit any work putting forth the view mentioned in the *Bālabodhinī* as a genuine work of Ādi Śaṃkarācārya.

(*e*) Several followers of the view stated in the *Bālabodhinī* e.g. sarvajñātman contradict the view of Vācaspatimiśra, but none of them has pointed out any

9. *Cf.* the commentary Advaita Mañjari on the Siddhāntaleśasaṃgraha by Appaya Dixit (*Cf.* page 65 of the Siddhāntaleśasaṃgraha printed in Kumbhaghoṇa in 1894).

10. Govindānanda, the author of the commentary Ratnaprabhā on BSB refutes the interpreters of BSB who assert that *Īśvara*, according to BSB, cannot be the substratum of *Avidyā* (*Cf* the commentary on BSB I.ii.22)

direct statement of Ādi Śaṁkarācārya which explicitly states *Brahman* as both the object as well the substratum of *Avidyā*

(*iii*) *Avidyā* is nowhere described in BSB as *Triguṇātmaka* - one consisting of three qualities viz. *Sattva, Rajas and Tamas.* The *Bālabodhinī* not only mentions *Avidyā* as *Triguṇātmaka* but also gives the different proportions in which the constituent qualities of *Avidyā* exist in the adjuncts of *Paramātman*, *Īśvara* and *jīva*

(*iv*) The Bālabodhinī states that the Supreme Spirit (Kuṭastha Cid) is reflected in its adjunct which is called *Avidyā* and which consists of three qualities viz. *sattva etc.* and mentions that *Īśvara* is only the reflection of the Supreme spirit in the portion of the qulaity *Sattva* in the adjunct of the Supreme spirit

—*Yathā nirmalādarśe saṁnikarṣasthavastuno nivāritaṁ pratibimvaṁ vijāyate tadvatkūṭasthacidābhāso pi sattvādiguṇatrayātmikāyām avidyāyāṁ pratiphalati. Tanmadhye kāraṇabhūtasattvāṁśe buddhipratibiṁbito yaścidābhāsaḥ saḥ......Īśvara iti ucyate.*

It is only in the works of later followers of the Advaita school that we come across such clear-cut distinction made between the Supreme spirit and *Īśvara*. Ādi Śamkarācārya does not seem to have meant it because in his BSB the words *Īśvara, Paramātma. Parameśvara. Para-Brahman* etc. are often used as synonyms of one another.

Thus the *Bālabodhinī* is proved to be a work. of some Śaṁkarācārya other than Ādi Śaṁkarācārya.

STUDIES IN INDIAN MUSICAL SCALES-I : A. VEDIC CHANT*

By

C. R. SANKARAN AND B. CHAITANYA DEVA

We make bold to reiterate the suggestion already made by us elsewhere [1] that the enclitic *swarita* in pre-vedic period must have been a middle tone, while the identification of it with the independent circumflex and its consequent rising in its first part, the second part being at the level of the *udātta*, must have been in the historic vedic period.[1] This suggestion alone would make the following statement in the Pāṇinīya Sikṣā meaningful[2] :-

Udātte (*niṣāda*) *gāndhārav*
Anudātta (*ṛṣabha*) *dhaivatau*
Swarita prabhavā hyete
Ṣaḍja (*madhyama pañcamāḥ*)

At once we see, as a derivative consequence of our suggestion, that on the one triad in prevedic music (if a prehistoric recitation can be called music at all,[3] in our sense of the term) there were three notes *gāndhāra* (*udātta*), (an oscillating ?) *ṣaḍja* (*svarita*)[4] and *dhaivata* (*anudātta*), this *dhaivata* being obviously in the

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1. C. R. SANKARAN [1] p. 73 and 86 ; [2] p. 29.

2. C. R. SANKARAN [1], pp. 305 and 306 ; also footnote 2, p. 306.

3. It is necessary to stress the fundamental and ' primitive ' identity of speech with music. This basic identity is marked in all our investigations, from diverse points of view (cf.the unpublished ph.D. thesis of B. CHAITANYA DEVA on the *psychophysics of Speech-Melody in Dravidian*) like the octave relationship, for instance where considerations revealed by wave-form analysis of speech point toward the deep, sometimes hidden, (as it were), identity of speech with music.
In this connection, we draw attention to the following pregnant statement of Anton EHRENZWEIG : "It is not unreasonable to speculate that speech and music have descended from a common origin in a primitive language which was neither speaking nor singing, but someting of both. Later this primeval language would have split into different branches ; music would have retained the articulation mainly by pitch (scale) and duration (rhythm), while language chose the aticulation mainly by tone colour (vowels and consonants)." ([4], pp. 163-164.

4. A. EHRENZWEIG [4]. ch VI. especially pp. 107-11.
Particularly we refer here to his two statements :
" It seems to consist of endless glissando and vibrato passages with but few resting points on articulate tone steps here and there on which our attention could settle. " ([4], p. 84).
And :
" We must beware of a too condescending attitude towards the yet ' weak ' power of articulation in primitive or archaic musical hearing. One could speak with the same justification of our lost ' abiltity ' for repressing extended passages of inarticulate form material. " ([4], p. 88).
In speech, the allophones are the counterpart of *gamakas, kaṇa svaras* etc. cf. " Allophones are statistical averages identified acoustically and hence often more suited for engineering, psychology, pedagogy, and information theory than for speech. " (W. F. TWADDELL, phonemes and Allophones in speech Analysis, JASA, 24, (1952), pp. 607-611).

lower (*mandara*) octave. These three notes apparently formed the nucleus of the original *gāndhara grāma* which fell into oblivion later.[5]

We wish to suggest here that the tonal ornamentations, like *gamakas, kaṇa svaras*, etc., constitute the 'inarticulate' (unconscious) form principle in music. Further, there is not much doubt that new *svaras* ('articulate' or *conscious*) may be created out of such material. Therefore, we further suggest that the *adhāra ṣadja* of later music might well have originated in this oscillating *ṣadja* as *conscious* ('articulate') adaptation.

Thus, the creation of a *tonic* in music is itself a historical process depending upon the conscious-unconscious relationship. In this regard, see EHRENZWEIG's treatment of Arnold SCHÖNBERG's atonic music. But, we may furhter suggest that there may be operating a *post-tonic* in such a music. (*Cf.* B. CHAITANYA DEVA [8]. Ch. I.)

In this connection we refer to the following pregnant statement of J. KRISHNAMURTI, differentiating 'psychological security' (we may take both the 'articulate' and 'inarticulate' constancies in our present context) from a *level* which knows no resting place :

"But if once we really understand that there is no such thing as psychological security, then there is no decay, is there?, because then there is no resting-place. There is decay only when there is something permanent, something continuous. But when there is a constant ending, constant dying, then there is a constant renewal which is not continuous." ([9], p. 17).

We farther venture to suggest here that, at the level marked by the absence of any resting place whatever, the mind co-exists with the dynamic spatio-temporal patterns of activity in the cortex. At such a level, *Time*, in reality, is *Existence*. (We may compare here the view of Prof. PIAGET of Geneva "that biological time is discontinuous, time being only attributable to changes and not having any meaning during the passage of stationary states," vide *La Pensée biologique en Epistemologie Génétique*, as quoted by Dr. G. WERNER in the letter refereed to below). "Obviously, therefore, the 'passage of time' with the before-after orders, perceived both at the oridnary levels of consciousness and subconsiousness of the human mind, in a purely empirical frame of reference, is due to the dissociation between the mind and the dynamic spatio-temporal patterns of activity in the cortex." ([10]), p. 217).

In this connection it is interesting to note that Dr. G. WERNER (of the Universidade de São Paulo, Faculdade de Medicina de Ribeirão Prêto, Brasil), in a letter dated June 25, 1956, to the senior author of this paper, observes, "I can't get away from the idea that time is no logical necessity but (it) might some day turn out to be a truism intrinsically linked (up) with consciousness."

Even the *gāndhāra* and the *dhaivata* here are only indications of the upper and the lower limits respectively of the *entire range* of the supposedly 'musical recitation' (which constituted in all, eleven *Śrutis*) of very far ancient times in the prevedic period, rather than the actual 'tones' (*svaras*). (The distinction between 'tone' as a 'psycho-physical reality' and a 'note' as a symbol indicating a musical relation of tones is dealt with in B. CHAITANYA DEVA's thesis entitled "*The Tonal Structure of Tambura.*" [8].

For one thing, until very much later in the historic period with the full establishment of the drone, we have to remember that the emphasis was more on the 'intervals' than on the 'tones' (cf. [3], pp. 127 and 134).

For another thing, we have also to remember here that on the one hand the laws of music are different from the laws of recitation and, on the other hand, the laws of one musical system are obviously different from the laws applicable to yet another musical system.

The entire suggestion made here will make the supposed disappearance of the *gāndhāra grāma* later, meaningful, especially as it consisted of a range of eleven *śrutis* only and not thirteen *śrutis* or nine *śrutis* ([1], p. 307, footnote 1). For, when the tones (*svaras*) came to have more or less a fixed value, the original and the primitive fluid system of music must have obviously ceased to have any significance.

5. For yet another possible explanation of the grāmas, see [3], pp. 129ff. But consistent with our present explanation, the telling *sāman* chant :

$$\overset{2}{b}arh\bar{\imath}3\overset{1}{ṣ}\bar{\imath}\overset{1}{2}\overset{1}{3}\overset{1}{4}5$$

referred to in [1], p. 308, can be taken to represent the replacement of the origianl postulate of *gāndhāra grāma* with the upper and the lower limits (the lower limit being *niṣāda*), as well as the intervening *svaras*, firmly fixed and with even an attempt to reach a higher tone, namely the first *sāman svara* (i.e. *madhyama*) on the syllable *ṣi* (cf. also [5], p. 2, 1.2), perhaps compensating the absence of *dhaivata*, as the lower limit.

With the subsequent replacement of the *gāndhāra grāma* by the *madhyama grāma*, which was undoubtedly the scale of reference for the Sāman chant, one possible value of the original oscillating (?) *ṣadja* of the *gāndhāra grāma* became the *ṛsabha*. At this stage, it can be clearly seen how this note came to serve as the keynote in the sāman music. Obviously, this was identical with the *pracaya* and it was significant that both were called *dhṛta*.[6]

In vedic times the *pracaya* had apparently come to be considered as having a pitch distinguishable from the *Udātta*.[7] It is quite plausible that this kind of tonal distinction between *udātta* and *pracaya* was made by the vedic chanters in India even in the conceivably very earliest times.

As the original state of affairs was obvioulsy forgotten by then, confusion apparently resulted when it was perceived that the *svarita* had two components one of higher pitch than the *udātta* and the other on a level with the *udātta*, because the *svarita* came to have a higher pitch than the *udātta* during the historic vedic period.[8]

It was also perceived that the so-called independent circumflex had two components, viz., the *udātta* and the *anudātta*.[9]

Now, it can be clearly seen how the identity of *dhṛtapracaya* with the *ṛsabha* of our *madhyama grāma* led to an obvious misinterpretation of the line in the *Śikṣā*, *anudātte ṛsabha (dhaivatau)*.[10]

With these missing links, the later picture of the emergence of the *ṣadja grāma*, as has been shown elsewhere, can be completed and also it may be realised how the *pracaya* note was in principle the forerunner of the drone.[11]

In this connection it is interesting to remember that, " The archaic Greek scales, however, were still played downwards, one of them even being an exact mirror reversion of our *major* scale." ([4], p. 162).

However, we are not swayed " by an uncritical appeal to the empirical, " ([6], p. 9).

It may be reiterated once again here, consistent with our thinking, that we agree with E.A. MILNE (*Modern Cosmology and the Christian Idea of God*, Oxford at the Clarendon Press, 1952, p. 9.) that a neat theory like A. EINSTEIN's general theory of relativity or E.A. MLINE's Kinemetic Relativity need not always necessarily deal with success in regard to small niggling effects in an unambiguous way. For, such a theory, " with its own philosophy and its own methodology, ought to be capable of standing on its on legs without the support of doubtful tiny effects. "

6. *Cf.* C. R. SANKARAN [1], p. 304; also, for the translation (or shall we way *transformation*?) of the original (?) keynote of the *madhyama grāma* into the *ṛṣabha* of the *ṣadja grama*, cf. BHARATA, referred to in [1], footnote 1, p. 304; see also, for the concept of *dhṛta* being a 'constant', as the basic *svara* or the tonic note, [1], footnote 3, p.87.

7. *Pracaya* has therefore, an *Utkṣipta avisiṣṭa udātta śruti*, [2], p. 30.

8. C. R. SANKARAN [1] 'pp. 73 and 86; also [2], p. 29.

9. C. R. SANKARAN [2], p. 29.

10. This misinterpretation perhaps got all the more strengthened because of the *samvāditva* of the *ṛṣabha* with *dhaivata* (*Cf.* [1], pp. 307-8.).

11. B. CHAITANYA DEVA[3], p. 128.

The psychophysiology of these fluctuations in musical forms may be understood if we remember that the tonic is an acoustic correlate of the neurophysiological tonus.[11a] The *swarita*— that which is sounded naturally—is the tonic. Music being created by a departure from a state of tonus, the first steps in musical formations may be expected to be in the form of slight descent and ascent from the tonic. Archaic music, then, would comprise of the lower and middle registers ; it would also be of a descending type. This is just what we can imagine in the early vedic chants : the primary tone is the *swarita* (tonic) ; a descent from this is the *anudātta* ; an ascent from it is the *udātta*. It therefore is the middletone. Uttered in isolation it is the independent *swarita* ; in a chant it is a glide. Early music being a descending one, this glide is associated with the *descent* from *udātta*. Also, it may acquire in its initial part an accidental higher pitch than the *udātta*. The isolated tonic -*swarita* --and the gliding middle are later confounded to be one and the same for the reason that they are both between *anudātta* and *udātta*.

Now before we proceed to give the preliminary experimental results in our study of vedic chant, it is perhaps fitting that we say a word about the oscillating *ṣaḍja* we have referred to earlier.

C. R. SANKARAN and P. C. GANESHSUNDARAM [11] have significantly pointed out the considereation of the alpha rhythm as the cortical tonus [12]. As they have said, " When there is no observable behaviour too the alpha-rhythm is characteristically present in the brain-wave. " Attention has also been drawn to Trigant BURROW's observations that there is " a characteristic and consistent alteration in the brain-wave pattern during cotention. This alteration consists of a reduction in alpha-time and a general diminution in cortical potential, which is most pronounced in the motor regions. " ([13], p. 262, cf. too [14], p. 395 ; also [13] pp. 353-392 and [14], pp. 487-523).

Therefore, it is obvious that the alpha-rhythm itself can be considered, as has been argued ([11], footnote 9a), as consisting of two different types of cortical tonus :-

(1) The usually observed variety which in essence is ditentive.

(2) The cotentive variety with its reduced timing.

The junior author of the present paper has already discussed [3] the function of the tonus in the integration of melody. In further elaboration of the concepts discussed therein we may now observe with justification that the usual tonus of a musician is only *ditentive*. Hence it is that he cannot orient himself to a change in the tonus.

11*a*. See Pitirim A. SOROKIN, *Social and Cultural Dynamics*, Vol. I, fluctuation of Forms of Art, London, George Allen and Unwin Ltd., 1937.

Quite naturally the ideational form has been also spoken of as the ' hidden side '. (C. W. LEADBEATER, *The Hidden Side of Things*, Vol. I, The Theosophical Publishing House, Adyar, Madras and Benares, India, 1913, p. 14).

But a musician who is well integrated and hence is cotentive, does not lose his *syntonicity* even when the tonic oscillates. Hence it is that the ecclesiastical music of far ancient times --being highly ideational i.e. *sātvik*—was *not* bound by a non-oscillating tonus, revealing the state of true transcendence over avoidance of " problem-situations where no decisions can be made " such an avoidance being the empirical basis of the law of non-contradiction ([15], p. 306).

The maintenance of syntonicity is a sign of a high order of integration. The loss in the capacity to maintain a homeostasis, on the other hand, is reflected in a shift from the ideational (*sātvik*) to the ideal-sensate and the sensate (*rājasik* and *tāmasik*) as the junior author of the present paper has already pointed out [3].[12]

The cortical tonus, in short, is a possible mechanism of melodic integration—a scanning mechanism that integrates the various tones with respect to the tonus.

The preceding discussion arose out of the discrepancies observed between the current modes of recitation of the vedic chants and the textual material available in this regard. A detailed experimental investigation of all the styles of vedic music now obtaining is, therefore, an urgent necessity.

The present experiment is a preliminary one in which the methods for the study of our musical scales are introduced forming a forerunner to our detailed studies in Indian musical scales--vedic, folk as well as chamber music.

For purposes of experiment and analysis, a simple chant from the Ṛgveda was chosen to show the three tonal regions --*udātta*, *anudātta* and *swarita*. (Note that we do not use the term *note* or *tone*. For these tonal divisions are broad and cannot be restricted to one narrow level).

The following ṛk was recited : [12a]

2 3 1 2 3 1 2 3 2 3 1 2 1 20 3 1 2
aum agna āyāhi vītaye gṛṇāno havya dātaye nihotā satsi barhiṣi

The style of recitation is the one obtaining in South India and, according to the reciter, an ancient one. (*Prācīna paddhati*).

In all the studies in musical scales so far known to us there has been no attempt to relate the physical parameters of the tone to the perceptual parameters—more restrictedly, the relation of frequency to pitch in music has been assumed to be a simple one. Usually, it is taken for granted that the physical measure of frequency is sufficient for the definition of musical scales. But psychoacoustic experiments have shown sufficieatly that such a definition is incomplete, if not msleading. Pitch scales in mels have been developed for pure tone ; we lack such

12. *Cf.* also in this connection Trigant BURROW's following significant observation : " *In the species man, the brain has assumed a function that departs from the behaviour typical of the phylic brain of man*" ([13], p. 198 [14], p. 330).

12a. Our thanks are due to Sri T. S. Srinivasa SASTRI of the Saṁskṛt Dictionary Department, Deccan College, for kindly reciting for us the various vedic chants.

a scale for complex tones. ROOT has introduced some simple methods for the study of speech melody both at perceptual and physical levels.[13]

We here introduce similar methods -- though developed independently of ROOT—for studying the musical melody at these two levels.

To relate the physical parameter—frequency—to the perceptual parameter—pitch—it is necessary to obtain melody plots at both these levels. (For the present we intentionally leave out the factors of intensity and complexity, as the effect of these together on pitch perception is not known).

The perceptual melody plot is obtained as follows : The recitation is first recorded on a precision tape recorder (which is used for both physical and perceptual studies). The melody plot is drawn while listening to this music or chant. To do this, a kymographic drum is kept rotating at a constant speed. On the smoked paper three parallel lines are drawn to represent the three tonal regions of the chant ; in the present plot the middle line is the *udātta*, the lower one *anudātta* and the upper *swarita*. A marker is held in the hand and the tone heard is marked on the corresponding line, as the drum is rotating. This immediately gives the melody (plot) as heard (Plate I).[14] Knowing the speed of the drum, it is easy to mark off the time limits and to estimate the duration of each tone or tone level. (More accurately a time marker is run off after the plotting is over).

The melody plot shown is of the *ṛk* obtained by the above method. The vertical lines mark off one second durations. The approximate speech sounds in the recitation are also indicated.

The physical melody plot is obtainable from the calculations on a visual record of the recitation. Firstly, the output of the recorder is fed to one of the beams of a cathode ray oscilloscope (Cossor 1049). To the other beam a constant frequency oscillator (1000 cps) is fed ; this gives the time reference. The spots of the oscilloscope are kept stationary on the x-axis and a continuous film is

13. A. R. ROOT, Pitch Patterns and Tonal Movements in Speech, *Psy. Monogr.* 40 No. 1 (1930).

14. A method very similar so the above was reported by J. SRINIVASA DAS, Music Phonography, *J. Mus. Acad.*, Madras, 17.41-50 (1946).

run off (Avimo camera) at a constant speed (about 10″/sec) (Fig. I). The oscillograms thus obtained are shown in Plate II. The lower trace is of the time reference and the upper one of the signal (recitation).

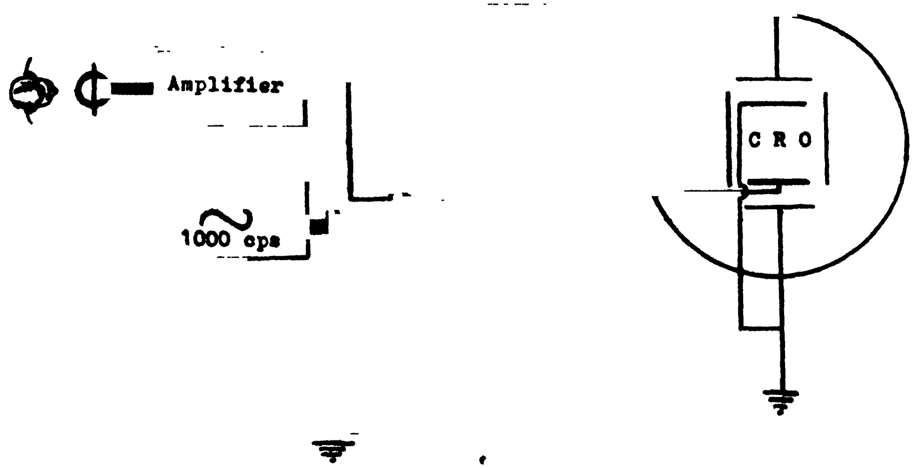

Fig.I . . The experimental set up.

The pitch measurements are made by comparing the time base and the signal by means of a travelling microscope. If one period of the signal corresponds to n periods of the time base, then the frequency of the signal is $1000/n$ cps.

The time intervals at which the signal is sampled is an extremely important factor. Gross sampling does not reveal one of the most significant character istics in music, viz., the vibrato. Also, it has been shown that the period by period acoustic characteristics may lead us to the formulation of concepts regarding the infra-conscious perception and production of tones.[15] For the purposes of this preliminary study the sampling is at intervals of about 0.1 sec., though even this is gross for finer study.

TABLE I

Time in sec.	Period in m.sec.	Pitch in cps	Remarks	Time in sec.	Period in m.sec.	Pitch in cps	Remarks
0.006	5.5	181.8		0.926	5.0	200.0	
0.105	6.0	166.6		1.029	5.0	200.0	
0.207	5.0	200.0		1.131	5.5	181.8	
0.309	5.5	181.8		1.268	5.5	181.8	
0.411	° 5.5	181.8					
0.514	° 5.0	200.0			38	—	(Indifinite.m)
0.619	° 5.5	181.8	5				
0.720	5.5	181.8			838	-	Pause
0.823	° 5.0	200.0					

15. B. CHAITANYA DEVA, *Psycho-physics of Speech-Melody in Dravidian*, Thesis submitted for the Ph.D., degree of the Poona University (1958, Unpublished).

Time in sec.	Period in m.sec.	Pitch in cps	Remarks
1.661	5.5	181.8	
1.763	5.0	200.0	a
	316	—	ghn
2.079	6.0	166.6	a
2.162	5.0	200.0	ā
	85	—	y
2.257	5.5	181.8	
2.357	5.5	181.8	
2.458	5.5	181.8	
2.558	5.5	181.8	ā
2.636	5.5	181.8	
	111	—	Indefinite
2.747	5.5	181.8	
2.851	5.5	181.8	
2.954	5.5	181.8	
3.044	5.5	181.8	
	120	—	h
3.164	6.0	166.6	
3.269	5.5	181.8	
3.373	5.0	200.0	i
3.475	5.5	181.8	
3.568	5.5	181.8	
	72	—	v
3.642	6.0	166.6	
3.742	5.0	200.0	ī
3.866	5.0	200.0	
3.966	6.0	166.6	
	117	—	t
4.083	5.5	181.8	
4.205	5.5	181.8	a
	61	—	y(?)
4.266	5.5	181.8	
4.366	5.5	181.8	
4.469	5.5	181.8	e
4.572	5.5	181.8	
4.641	5.5	181.8	
	139	—	gr
4.780	5.0	200.0	
4.880	5.5	181.8	
4.979	6.0	166.6	ṛ
5.130	5.5	181.8	
	75	—	n

Time in sec.	Period in m. sec.	Pitch in cps	Remarks
5.205	7.0	142.9	
5.304	6.0	166.6	ā
5.403	6.0	166.6	
5.507	5.5	181.8	
5.611	6.0	166.6	
	70	—	n
5.681	5.5	181.8	
5.780	5.0	200.0	
5.882	5.5	181.8	o
6.080	6.0	166.6	
	67		h
6.147	6.0	166.6	
6.196	5.0	200.0	a
	273	-	vy
6.469	5.5	181.8	
6.600	5.5	181.8	a
	83	—	d
6.683	5.0	200.0	
6.781	5.5	181.8	ā
6.883	5.5	181.8	
6.986	5.5	181.8	
	85	—	t
7.071	5.5	181.8	
7.172	5.0	200.0	a
7.277	5.0	200.0	
7.380	5.5	181.8	
7.482	5.0	200.0	
7.586	5.5	181.8	ye
7.608	5.5	181.8	
7.713	5.5	181.8	
7.817	5.0	200.0	
7.919	5.5	181.8	
8.000	5.5	181.8	
	421	—	Pause
	38	—	n
8.459	6.5	153.8	
8.551	6.0	166.6	i
	58	—	h
8.609	5.5	181.8	
8.711	5.5	181.8	ō
8.810	5.5	181.8	
8.940	5.5	181.8	
	94	—	t

Time in sec.	Period in m.sec.	Pitch in cps	Remarks
9.034	5.0	200.0	
9.134	4.5	222.2	a
9.234	5.0	200.0	
9.374	4.5	222.2	
9.405	5.0	200.0	
	77		s
9.482	5.5	181.8	
9.585	5.5	181.8	a
	290		ts
9.885	5.0	200.0	
9.987	5.5	181.8	i
10.089	5.0	200.0	
10.245	5.5	181.8	
	78		b
10.323	6.0	166.6	
10.426	5.0	200.0	a
10.642	5.5	181.8	
10.682	5.5	181.8	
	93		i
10.775	5.0	200.0	
10.875	5.5	181.8	(?)
10.928	5.5	181.8	
	567		Indefinite.h.
11.495	5.0	200.0	
11.598	5.5	181.8	i
11.657	5.5	181.8	
	108		s
11.765	5.0	200.0	
11.871	5.0	200.0	i
11.903	5.0	200.0	
	80		Indefinite
11.983		000.0	

The data from the measurements are given in Table I. The first column shows the time instant (from the beginning of the utterance) in secs at which the oscillogram was sampled. The next column gives the period in millisecs., of the wave pattern at the instant. The third column indicates the pitch (strictly, the frequency) of the tone. Under Remarks the limits of phonemes (approximately) in the utterance and any other explanatory material are added. The physical melody plot is given in Fig. II. In constructing the melody plot, it is obvious that only the vowels carry the pitch, and hence the pitch of vowels is marked with an unbroken line. The consonants carry no definite pitch; they are assumed to connect the preceding and succeeding vowels and are indicated by broken lines.

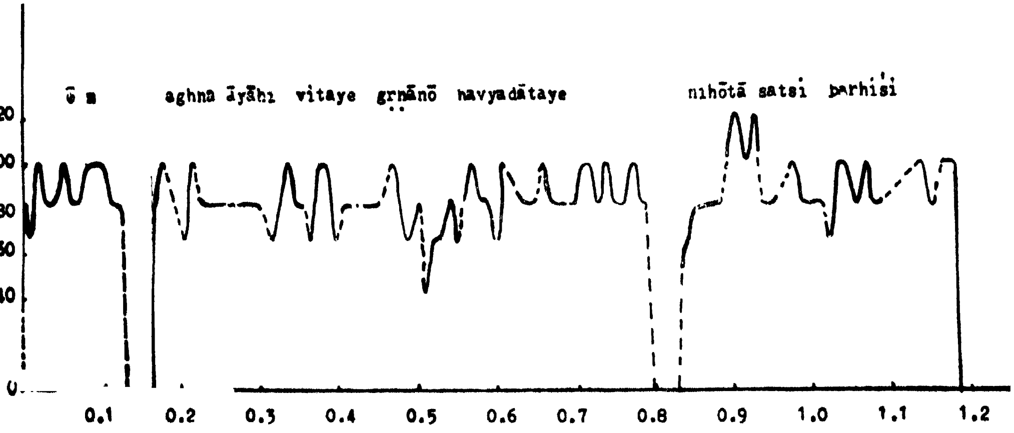

Fig. II: Melody plot of the ṛk. Broken lines represent consonantal regions.

Results

According to the notation of accent given in the text of the *ṛk* there are four different numbers : 0, 1, 2 and 3. There does not seem to be any correspondence of the recitation to the numbers. According to the reciter *anudātta* is only the vowel *ā* (of *gṛṇānō*) and *swarita* is the vowel *ā* (*nihōtā*) ; all other vowels are *udātta*. In the textual notation the number 0 is given to the *swarita*. The other three numbers do not bear any relationship to the actual recitation. Obviously the style of recitation and the notation do not agree, for which historical reasons must be sought.

On observing the perceptual melody plot, it will be seen that an increase in pitch is noted at five places. Now the singer himself felt that all except the true *swarita* (noted above) are only *udātta*. But we felt that there was really an increase in pitch here. In reality these extra pitches are only stress accents, inducing a definitely perceivable increase in pitch. Therefore, though there is a feeling of increased pitch at these places, we have included them in *udātta*, thus allowing for the change in pitch due to stress. (See however the physical melody plot).

The physical melody plot reveals the following : The most noticeable thing is the fluctuation in pitch . The frequency is not steady for any given tonal region. SEASHORE has already described such pitch modulation as the vibrato and shown it as an essential quality for good artistic expression.[16] In the present chant, though there is no strict regularity of vibrato it is nevertheless prominent.

The other results obtainable from the physical measurements are summarised in the following table :

TABLE II

Tonal Region	Mean Pitch in cps	Maximum Range	Internal between Totnal regions
Udātta	185.2	166.6 to 200 cps. (=318 cents or minor thirds ; *sapta śruti*)	*Udātta* to *anudātta* : 202 Cents or *saṅkīrṇa triśruti*.
Aunudātta	164.8	142.9 to 181.8 cps. (= 418 cents)	
Swarita	211.1	200.0 to 222.2 cps. (=92 cents or chromatic semi-tone ; *laghu dviśruti*)	*Swarita* to *Udātta* : 226 cents or major tone ; *catuśśruti*.

In the above Table the details of each of tonal regions are described thus :

The pitch of each region is expressed as the weighted mean of the frequencies observed. (For the present, due to lack of any definite information, the pitch of a complex tone is taken equal to fundamental physical frequency).

16. Carl E. SEASHORE, *Psychlogy of Music* Ch. IV (McGraw-Hill, 1938) entitled A Musical Ornament, the vibrato pp. 33-52.

Under the head of ' maximum range ,' the *pitch-range* from the lowest to the highest pitch employed in any *continuous utterance*, is measured. In all, three different ranges have been noticed : the minor third and the chromatic semitone and a range of 418 cents. This last interval has nowhere been reported in our music. It is nearly equal to large major third or better still it is about the 53rd note in the cycle of fifths.

In the more usual methods of definitions of musical scales, only gross acoustical characteristics are ever taken into account. The finer variations and movements are ignored as if they were unnecessary. But we have repeatedly shown that these finer structures are capable of leading us to nonconscious perception.[16a] Further—and this is the most important point we wish to make—music or speech has to be defined as *movements* and not as intervals, thus taking us to the alphaphonoid theory. This is indeed a formidable task. But having this in view, we shall, for the present, present only some grosser features. The variations within a tone have already been discussed above. The intervals between two tonal regions are now presented :

Between the *udātta* and the *anudātta* there is an interval of 202 cents. This has been termed as the *saṅkīrṇa triśruti* which as ACHREKAR shows, may be thought of as derivable from a minor tone + 20 cents (182 + 20 cents).[17] Such an interval though theoretically derived has not been thought to be employed in our music. C. S. IYER is of the opinion that such complicated intervals are not employed in our music, though his inferences are based and extrapotated from very scanty material.[18] But our present experiment does reveal a definite interval of this magnitude.

The interval between the *swarita* and the *udātta* is 226 cents or a major tone (*catuśśruti*). This is a very common interval in every kind of music among all nations and peoples.

These intervals are computed from the mean values of the various tonal regions. We have suggested that the *swarita* of the vedic chant is the *ṣaḍja* of later music. From this point of view, the three tonal regions *swarita*, *udātta* and *anudātta* are respectively *Sa* (*Do*), *ni*(*Si*), *Dha*(*La*) of *ancient* (modal) music and *Ri*(*Re*), *Sa*(*Do*), *Ni*(*Si*) of modern (melodic—dronal) music. The intervals are major tone (*catuśśruti*) and *saṅkīrṇa triśruti* in the above given order. The *Ri* (modern) obtainable from this chant is therefore the *catuśśruti ṛṣabha* (major)

16*a*. *Cf.* for instance, C. R. SANKARAN, et. al., [16], p. 13 and p. 14.
Cf. too, " Health is a state of harmony between conscious self, personal not-self and vegetative soul .....Our business as educators is to discover how human beings can make the best of both worlds—the world of self-conscious, verbalized intelligence and the world of the unconscious intelligences immanent in the mind-body, and always ready, if you give them half a chance, to do what, for the unaided ego, is the impossible. " (Aldous HUXLEY [17], pp. 18 and 26).
17. Firoze FRAMJEE, *Theory and Practice of Indian Music*, 31 and 40 (Poona No Date).
18. C. S. IYER, *The Grammar of South Indian Music* (Madras, 1951),

second and the *niṣāda* is a *saṇkīrṇa triśruti* below *Sa*. This particular *ni* has not been reported by any of our musicologists.[18a]

Finally, a word must be said about the relation of the physical to the perceptual. It was already noted that we auditorily reported increase in pitch when the subject insisted that it was *udātta*. The sense of increased pitch may not only be due to the stress but also due to actual increase in the fundamental frequency of the tone. Such a sudden increase is definitely observed, as may be seen in the melody plot (physical). Also, in the definition of musical relations it is better and reasonable to think of them as tonal movements rather than as steady pitches between which there are definite 'intervals.' Lack of such definition has so far led all musicologists into controversies of the number of tones used in music. But our ancient musicologists recognized the fallacy of such statements when they said that the number of *śrutis* is infinite. For only grosser purposes, we employ intervals between imaginary or assumed steady states. Because of this discrepancy between the arithmetically defined ratios and the actuality which is a constant flux, the dynamics of psychoacoustic phenomena in the development of musical scales and forms has not been sufficiently understood. In the present case, we observe how the *swarita* may be physically present (and even perceptually present for some) and absent in the perception of others. These latter persons do not bifurcate intensity from pitch; the former pay more attention to pitch variations. Such differences may tend to be separated more and more, so that the inherent *swarita* in the stress accent becomes a palpable one in the pitch accent.[19] Any number of intermediate stages are possible; combine with this the *gamakas* and we have a *swarita* (the later *Sa*) which is indefinite in form an oscillating *ṣadja*. The indefinite forms have always been the real nuclei of new musical creations.

18*a*. Now it can be clearly seen how this *Niṣāda* was conceived to have been contained within the embryo of *dhaivata* [1], 299. Hence the *reverse—order* in the enumeration *Pañcamodhaivato bhavet ṣaṣṭho niṣāde vijñeyaḥ* in the well known stanza in the *Nārada Śikṣā* [1], 238.

19. C. R. Sankaran, contributions on the study of Indo-European Accent. *BDCRI*. Vol II, (1940). Nos. 1-2. p. 185 and footnote 1.

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THE PROCESS-EXISTENCE CONCEPT AND THE STRUCTURE IN SPEECH*

By

P. C. GANESHSUNDARAM

The *alpha-phoneme* theory of SANKARAN resembles closely the conception of DIRAC ([14], p. 273) about the distribution of electrons occupying *all the negative energy states*, and therefore, of infinite density everywhere in the world[1].

The *alpha-phonoid* concept is really a *process-existence* ([1], p. 69, footnote10) —a ' before-after ' identity ([15], pp. 89 and 90). It is obvious, therefore, that as in DIRAC's basic conception, according to the alpha-phoneme theory, " fundamenatal processes of nature cannot be depicted as happenings in space and time ; beyond anything that we can observe, there is a substratum of events that do not permit of such representation. " ([16], p. 336 ; also [14], p. vii). Further, the position taken by the alpha-phoneme theory is akin to DIRAC's as is evident in the observation : " the second of these [the method of co-ordinates]...is known under one or other of the two names ' Wave Mechanics ' and ' Matrix Mechanics ' according to which physical things receive emphasis in the treatment. *the states of a system or its dynamical variables.*" ([14], p. viii).[2] (Italics mine).

The present paper is a further attempt towards bringing this concept of process-existence into somewhat greater relief in the light of the communication techniques.

As is well known, oscillographic studies of wave-forms and their analysis have shown the complexity of the structure of speech-sounds, and the complexity is amply revealed by the ' visible speech ' spectrograms too. However, neither the waveform analysis nor the spectrographic reproduction has been able to show the *structure in speech.* [1].

This is essentially the outcome of our habitual perception of consonants and vowels as ' building blocks ' differing from one another.

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1. This is the full implication of the following statement made in our paper on Time and Speech-Structure ([6], p. p. 402) : " The operational efficiency of the construction of the alpha-phoneme is assumed to be not affected even if our configuration were only VC instead of CV."

I am greatly indebted to Prof. C. R. SANKARAN for so kindly drawing my attention to the fundamental concepts of DIRAC's work and for illuminating discussions thereof.

2. The states of a system and the dynamical variables are, in essence, what are here respectively referred to as the ' existence ' and the ' process '.

In the light of the ideas already published by the present author and his senior collaborators [1, 2, 3, 4, and 5], the vowels and the consonants are viewed here only as different *states* of one and the same *process*.

At one level of observation, if a vowel sung at a constant pitch with constant intensity is considered as a state of *existence*, the consonant is the *process* that changes it [2]. A closer examination of the constantly maintained vowel also shows at the same time that the very *existence* of a vowel is a *process* undergoing a continuous change from instant to instant. What is true of a vowel is true of a consonant. Every individual speech-sound, perceived as such, is therefore, a *process* and an *existence* at the same time. That is, it is a *process-existence* at every instant.

Phonetics has all along been faced with the question, 'are speech-sounds isolated " building blocks " which follow one after another (as we are accustomed to perceive them from the linguistic- phonemic angle), or, are they different constantly varying stages of a continuously varying " process," as is evident from any oscillographic record ?' The essential problem of phonetics is, in short, that of reconciling the diversity between the acoustics of speech-sounds and phonemics, or rather, to be more precise, that of comprehending their diversity through a conceptual unification of the continuous and discontinuous aspects.

There has been considerable success in the artificial production of speech-sounds treating them as separate 'building blocks,' thereby establishing the validity of the phonemic approach, without, however, reconciling the continuity of acoustic variations of speech-sounds.

In recent times a crucial point has been reached in the spectrographic synthesis of artificial speech-sounds by COOPER, DELATTRE and LIBERMAN [29] (referred to by D. B. FRY [8], p. 164), where we find that a consonant and a vowel can be artificially produced equally satisfactorily when the consonant is a separate 'burst' isolated from the vowel-formants and occupying a separate frequency region, as well as, when the consonant is not represented separately, but is neverthless heard and recognised as an entity different from the vowel, merely by effecting a change in the vowel formants during the initial 50 milliseconds. The direction of change as well as the degree and rate of change have a strong influence on the nature of the consonant perceived.[3]

This amply gives room to suggest that the continuity or discontinuity of speech-sounds is dependent not so much purely on the acoustic processes, nor even

3. *Cf.* Colin CHERRY ([9], p. 67) : " 'Meaning' is more like the beauty of a complexion ; it 'lies not together in the eye of the beholder ' —but changes with the light ! "

Even an 'individual' speech-sound (like 'meaning') is like the 'beauty of a complexion' ; the perceptual habit acquired by the 'beholder' is responsible for perceiving it as the 'same', but it 'changes with the light', that is, it acquires different shades in the light of the tone-colours of 'adjacent' speech-sounds.

on the linguistic (phonemic) material 'stored-up in memory', as, possibly, on the very (psycho)-neuro-physiological process of memory-forming (or perception), which in itself is a process at once continuous and discontinuous — a continuous scanning process that intermittently goes over every region to be scanned — confirming in essence the validity of the pregnant statement made by C. R. SANKARAN in a crucial context in his Monograph ([10], p. 39) to the following effect : "We are thus deviously led once again to the threshold of the philosophical enquiry concerning the ultimate 'discontinuity' or 'continuity' in Nature."

Every speech-sound, used as such, should be capable of *communication* as well as *storage*. Now, a 'process' is necessary for communication and an 'existence' is necessary for storage. Since, a 'process' cannot be stored and an 'existence' cannot be communicated except through 'scanning' of some sort, we have to look upon the 'continuous' character of acoustic waves as the result of 'scanning' on a stored-up 'existence', and the 'building block' character of phonemes as the result of 'scanning' a continuous 'process.'"

We come to the level of the *alpha-phonoid* ([10]) when scanning is infinite, that is, when every two adjacent 'event-particles' are scanned at two corresponding successive 'instants', the *time interval* between which is *zero* ([10], p. 29).' (Or rather, the time interval is equivalent to the 'distance' between two 'chronons'[3a] In other words, the scanning process, at that level, is truly *Veronesean* [6,7]).[4]

The process of scanning has been studied in great detail both from the point of view of mathematical theory and practical technique, particularly in the field of television. We have, for example, the theoretical relation ([17], p. 449)

$$\triangle W. \triangle T \geqslant \tfrac{1}{2}.$$

due to GABOR, which states that, for the minimum message, the product of the bandwidth of the channel and the duration of transmission of the message cannot be less than ½. The equality holds good only when the elemental message of transmission is a pulse of *Gaussian* shape.

This relationship, for any given bandwidth, puts a theoretical limit to the rate of effective scanning in television.

A further consequence is that, for any given picture-frequency, say 25 c/s (or 'frames'/second), the maximum permissible 'motion frequency' of any partial or full portion of the picture is 12½ c/s. In other words, any motion should

3a. *Cf.* [3], footnote 2*a*, p. 220.

4. The full implications of the Veronesean Continuum have been dealt with in great relief in our paper [6] (pp. 398-400 ; cited also in [12], p. 233) : the bearing of a resemblance to the infinitesimal segments of a non-Archimedean geometry of the 'instant-(entitie)s' is discussed in its conceptual importance in the very beginning of the above paper ([6], pp. 395-398).

take at least twice as long as the duration of any one picture ' frame ' to be clearly depicted as a ' motion ' in the picture ([17], p. 451).[5]

This line of argument is here extended to discuss the relationship between the consonant and the vowel. The utterance of a ' pure ' vowel at constant pitch with constant intensity is equivalent to the transmission of a ' stationary ' picture at a picture-frequency of a particular number of ' frames ' per second. Every vowel ' profile ' (in the language of E. W. Scripture, [10], p. 25) is equivalent to one picture ' frame ', and the frequency of repetition of the ' profiles' is equivalent to the picture-frequency. Under these circumstances, any change in the profiles (or part of it), which is equivalent to any ' motion ' in the picture or part of it, can take place only at *half* the rate of the ' profile ' (picture) repetition frequency.

This immediately suggests (as a consequence of our view-point that the consonant is nothing but the *change* in the vowel-process), that (although the duration of a consonant is very much smaller than the duration of a vowel-stretch as a whole, in any CV configuration), the consonant *must necessarily* have a duration *longer than at least two* vowel-profiles to be *phonetically* (though not *phonemically*) perceived as an entity distinct from the vowel. Similarly, the vowel as a whole should be longer than the consonant in duration.

If we now assume the ' profile ' repetition frequency to be 125 c/s for a particular articulation of a vowel, we expect any consonant associated with this vowel to have a duration of not less than 0.016 second, since the duration of one vowel ' profile ' at this frequency is 0.008 sec. In fact, in the spectrographic synthesis already referred to ([8], p. 164), the change in the vowel formants takes as long as 50 milliseconds. It is, therefore, necessary to mention here that, whenever the duration of a consonant (that is, the duration of the *change* in the vowel-formant) is measured, the duration of the vowel-profile (or the voice frequency) must be specified to make such a measurement meaningful. For, as we have seen, when the duration of the vowel-profile changes, the minimum duration necessary for the consonant to be perceived as a separate entity also changes.

Now, it is interesting to consider what would happen if an isolated vowel having only one, two or three ' profiles ' is separately produced and heard for identification. In the first case, when there is only one profile, there is a sudden change taking place from nothing and ending in nothing. The change does not, under the given conditions, extend over a period of two or more profiles. We thus perceive not a vowel (nor a consonant) but just a ' click ' (equivalent to just a ' flash ', when a picture is projected for the duration of only a single ' frame ' in total darkness).

5. The present author is obliged to use here the language of telecommunications but hopes that the main trend of the arguments will not be lost on those readers who are not familiar with that field.

Even when there are two ' profiles ' we still have not fulfilled our requirements, viz., that the *change* should take at least twice as long as a single ' profile ' but the vowel-stretch as a whole should be longer in duration than the change. We, therefore, still perceive only a ' click ' or perhaps just an inkling of a tone though we are unable to locate its pitch.

When there are three ' profiles' , we are perhaps able to specify the pitch of the tone, but are still uncertain in identifying the vowel.

Thus from the foregoing discussions we can say that, to identify any vowel as that particular vowel, the vowel must contain at least *three* or more ' profiles ', supporting thus the empirical conclusion already reached by TANAKADATE ([18], p. 120).[6]

Now, an important difference between the ' profile ' repetition and the television ' frame ' repetition should be pointed out here. Whereas in television each successive ' frame ' is accurately timed to occur between the two corresponding accurately timed synchronization pulses, we have no such ' synchronization ' for timing the ' profiles. ' In fact, there is a large latitude found in the timings (durations) of successive profiles even in the case of a ' pure, constantly maintained ' vowel, something which chiefly contributes to the ' voice-quality ' differences. The quality of a television picture, apart from all other factors, depends on the accuracy with which the synchronizing pulses are timed. Any laxity in regard to this stringent requirement results in serious distortions. In speech, the presence of such a ' distortion ' seems to be a ' necessary ' factor !

It will, therefore, be interesting to study what happens when the ' profiles ' are accurately synchronized and when they are not. In the former case, we will find that the repetitive patterns (' profiles ') are of the same duration during the particular stretch and, in the case of the maintained vowel, the patterns will even be identical. In the latter case, no two ' profiles ' in any stretch will normally ever have either the same duration or the same wave form. Further, any wave-form or frequency analysis in the latter case will always show spurious sidebands of all components. In the former case these spurious sidebands will be absent. Therefore, any articulation of a vowel, depending upon the degree of drift from the synchronized repetition frequency will show side-bands of a greater or smaller magnitude and complexity.

It is rather tempting to suggest that, for ' mellow ' vowel articulations (with highly yielding walls of the vocal cavities resulting in a greater laxity in ' synchronization') more striking will be the play of these spurious components than in

6. It may be noted here that in the earlier formulation of his theoretical conceptions, SANKARAN had referred to TANAKADATE's work while emphasising that vowels and consonants are not mutually exclusive in speech. (*Cf.* for instance, C. R. SANKARAN [23]).

the case of ' metallic ' vowel articulations (where the walls yield to a lesser degree). It may also be suggested here that, if the ' same ' vowel is uttered both by a parrot and a human subject (the human subject even imitating the parrot's voice-quality), we can still clearly expect more of the ' metallic ' character in the ' parrot ' vowel than in the ' human ' vowel precisely for the reason that the parrot's vocal apparatus (with no lips but with large beaks in comparison with the total area of the walls of the cavities) is to a larger extent made of harder unyielding material than the human vocal apparatus. The spectrograms (Fig. 1)[7] bring out, it is believed, this important difference. For example, there is less ' flutter ' in the direction of frequency axis of the components in the ' parrot ' spectrograms (Fig. 1 (a)), whereas such ' flutter ' of the components is very obvious in the ' human ' spectrograms (particularly in Fig. 1(b).)[8]

Coming back to scanning, we take it from the works of WALTER [19] and others that, at least in the neuro-physiological (if not in the psycho-neurological) sphere, there is a scanning process of some sort (identifiable with the alpha-rhythm revealed by the electro-encephalograph) taking place in the perceptual process.

Although no direct correlation could as yet be established between the alpha-rhythm and speech vibrations, a few of the immediately apparent similarities may here be referred to for what they are worth :

(1) The alpha-rhythm has a frequency of about 8-13 c/s in normal subjects when the eyes are closed and the mind is at rest ([19] and [20], p. 254).

The speech vibrato frequency is about 6-10 c/s [21].

(2) The rhythm is disturbed when the *eyes are open* or under *emotional stress*.

7. The author wishes to express here his deep indebtedness to Dr. W. MEYER-EPPLER (of the Institut für Phonetik und Kommunikationsforschung der Universität Bonn) for having so kindly taken special pains in providing several spectrograms of parrot speech. The author also wishes to express his deep feelings of gratitude to Herr Dipl.-Ing. H. SENDHOFF for having so kindly carried out the spectrographic analyses.

Fig. 1, which is here reproduced with the kind and generous approval of Dr. MEYER-EPPLER, is a typical spectrogram from among these.

8. For want of a parrot subject readily available the oscillographic confirmation has not yet been made possible for us here, a confirmation which depends on the degree of variation of the ' profile ' periods from one another in any given stretch.

It is interesting to note that Aldous HUXLEY in the pregnant context when he speaks of " the miracles performed by the indwelling intelligence of animals—miracles all the more remarkable because of the lack of intelligence displayed on the conscious level by the creatures concerned" (which are to be clearly distinguished from the " miracles of instinct "), observes as follows :

" When a parrot uses its noise-making apparatus to imitate the articulate sounds produced by the radically dissimilar noise-making apparatus of a human being, some indwelling intelligence is performing a miraculous feat of *ad hoc* intelligence......Something other, something far more intelligent than the conscious bird performed the miracle of imitation for the parrot." (Aldous HUXLEY, *Adonis and the Alphabet and other Essays*, Chatto and Windus, London, 1956, The Education of an Amphibian, p. 26).

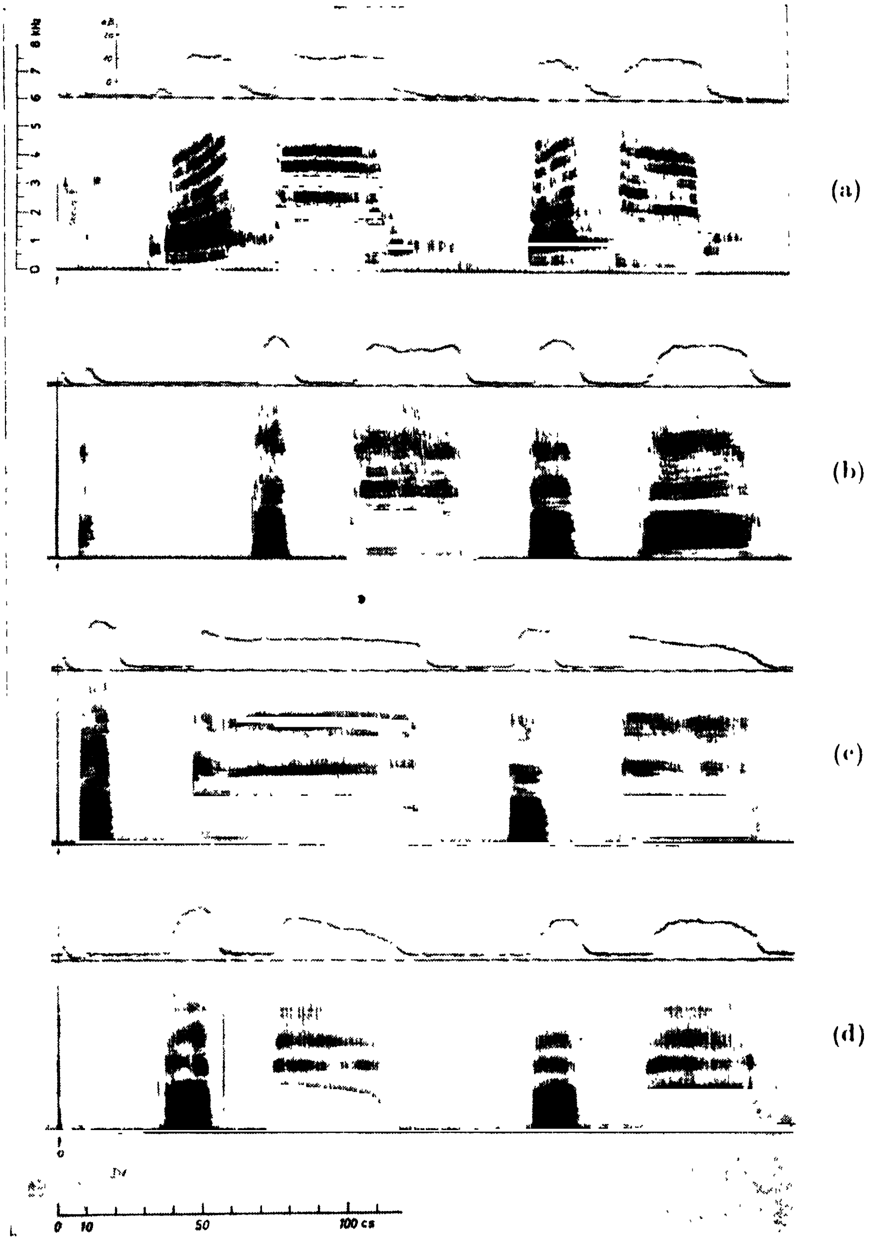

Fig. 1 : Sample Spectrogram

In most normal subjects there is notable disturbance of speech *with emotion* ; also, with every sound heard, there is usually a *visual imagery* unconsciously produced in the subject's mind, often accompanied by changes in the emotional states.[9]

(3) Long before an epileptic fit, in subjects who are susceptible to it, the alpha-rhythm is considerably disturbed.

It has also been found ([22] p. 81) that epilepsy can be diagnosed from the speech-curves long before diagnosis is possible through any other means.

The above similarities carry the suggestion that the alpha-rhythm is in some way associated not only with the visual channel (as has been demonstrated experimentally [19, 20]) but also with other channels, like the articulatory and the auditory.

It is true that the visual centres of the cortex are more directly related to the alpha-rhythm as demonstrated experimentally. But it seems pertinent to ask, in view of the fact that channels other than the visual are also related, however indirectly, with the alpha-rhythm, whether the greater ' preference ' to the visual channel is not more a result of a' lop sided ' habituation of perception biased towards the visual. A bat, for example, (if it were human), may convert all its experiences in terms of its own perceptual habituation of an 'ultrasonic imagery,' wherever man falls back on ' visual imagery. ' Wherever man struggles for ' more light ' in solving any problem, the bat might struggle for ' more ultra-sound ' ![10]

During the process of the evolution of human perceptual organisation the visual perception has been gradually developed as the field of primary experience with the resulting corollary of ever associating visual imagery for all other channel perceptions. The signal velocity,[11] the velocity of light, which plays such an important role today in some of the current theories of world-structure, is primarily a concept derived from the field of primary experience which happens to be the visual.[12]

9. There are, however, notable exceptions where a subject has *no visual imagery* accompanying the perception of auditory stimuli. (I am grateful to Dr. B. Chaitanya Deva, for fruitful discussions on this and many related questions).

10. Here one may note the daring conception of Chaitanya Deva and Sankaran in regard to a level when the mind co-exists with the dynamic spatio-temporal patterns of activity in the cortex in the perceptual process ensuring the perfect freedom from *time* of ' before-after ' at both the ' conscious ' and ' infra-conscious ' levels. (*Cf.* B. Chaitanya Deva and C. R. Sankaran [4], pp. 217 and 218).

Obviously here Chaitanya Deva and Sankaran err in the good company of Whorf and J. W. Dunne ([4], p. 217).

11. C. R. Sankaran [15], p. 121.

12. *Cf.* B. Chaitanya Deva's (unpublished Ph.D. Thesis on) *The Psycho-physics of Speech Melody,* wherein he says :

" It is necessary to emphasise the fact that the velocity of light has so much importance in physics, because modern science is quantitative to a large extent and the visual modality is the

If channel perceptions other than the visual are taken as the field of primary experience, the 'signal velocity'[13] could have been 'auditory' or even anything else other than the visual. For example, even a theory of world-structure, essentially the same as the one in which the velocity of light is brought into play, could have been developed in terms of a signal which is, let us say, the velocity with which electric 'shock' travels—a concept associated with touch perception (taken here as the field of primary experience).[14]

Penetrating deeper still, it is to be made clear here that like the constancy of the velocity of light, even GABOR's relation, already referred to, is just a signal, 'an agreed number independent of the empirical.'[15]

All the foregoing discussions bring into relief the idea that 'existence' of any form (except in a state of *Being* when nothing is questioned, nothing is *communicated*) is linked with the 'process' of perception, through some 'signal' (taken

only one which has been adapted for studying quantitative relationships. No other modality can *measure by quantities*!

"One is reminded here of the very pregnant words of Julian HUXLEY, a fine representative of modern scientific thought, 'To my way of thinking one of the great needs of our time is to discover means for coping with the problems of quantity and value: after all, our most important experiences are qualitative, and when everything is reduced to mathematics, something essential has evaporated from reality'. Foreword to D. H. RAWCLIFFE, *The Psychology of the Occult* (Derricke and Ridgeway, 1952). Of course, HUXLEY means by mathematics what in popular parlance may be loosely called the arithmetic of measurement."

13. It is needless to point out here that the alpha-phonoid enjoys the same status as the *signal velocity*, like the constancy of c in MILNE's kinematic relativity, being an 'agreed number independent of the empirical'. (See also *infra*, footnote 15). In this connection MILNE's observation, "It is to be particularly noted that we shall not assume as an axiom 'the constancy of the velocity of light," (11, p. 17) is to be specially mentioned here.

14. *Cf.* here, for instance MILNE's reference to a physics constructed out of tactual data in [11], p. 14.

In referring to the alleged existence of 'centres' in the cortex corresponding to different fields of perception, it is of interest to note here William GOODDY's remarks: [24] (p. 185) 'Speech depends on the whole brain, 'in a highly co-ordinated manner'."

(p. 182) "A lesion anywhere on the circular pathway, 'motor' or 'sensory', was accompanied by defects in volitional performance; that is to say, blockage of impulses anywhere in the nervous cycle is accompanied by defects of function. From this scheme, we derive the proposition ..that it is impossible to state a *site of origin* of a nervous activity." (*Cf.* here our own reference to the neutral network as a closed circuit in our paper [25], p. 197, footnote 4).

(p. 184) "The brain is not the site of the beginning of volitional impulses and the end of sensation impulses, but a very important and complex 'ganglion' (the word SHERRINGTON (1905) used in a similar connexion), in the cycle of activity."

The human mind in essence extends to the very tips of our fingers. The mind, at one level, is a reflection of the 'process' that is continuously taking place, the 'process' that makes the 'existence' of the entire human organism possible. (*Cf.* also, C. R. SANKARAN and P. C. GANESHSUNDARAM, [26]; see also in this connection Sri AUROBINDO, *The Life Divine*, Sri Aurobindo Library, New York, p. 877).

15. As a matter of pure convenience this relation of GABOR is analogically taken here as the 'signal' corresponding to the alpha-phonoid at one level of observation.

(For the conception of the alpha-phonoid as 'an agreed number being independent of the empirical' like the costancy of c, see C. R. SANKARAN [10], footnote 8, p. 2; see also C. R. SANKARAN [27] p. 190).

It may be noted here that according to MILNE "The constancy of the velocity of light is an *a posteriori* consequence of the equivalence of the observers." (*Cf.* William BAND, A critical examination of Milne's Kinematic Relativity, *Phil. Mag.*, 37 (1946) p. 551).

as an agreed number independent of the empirical) associated with such a ' process ' —the process of ' experiencing ' which makes communication of an ' experience ' or ' existence ' possible. Further, these discussions regarding the ' process-existence ' are in essence yet another exemplification of the concept of EDDINGTON's selective-subjectivism.[16]

16. *Cf.* EDDINGTON [28], pp. 63-66, especially p. 64. (See also C. R. SANKARAN [10], p. 28 and footnote 71 ; see, especially, p. 9, footnote 13*a*, wherein SANKARAN says : "......at a deeper *conceptual* level, both the so-called *subjective* and the *objective* methods of study ought to be combined more than as a *mere addition* of the two methods.").

Cf. also F. MAINX ([30], p. 25) (as quoted by Garrett HARDIN, in his paper ' Meaninglessness of the word ' 'Protoplasm " ' [31], p. 203) :

" The ' thinghood ' of a living being is only a psychological experienc of the human observer."

Cf. also here Erwin SCHRÖDINGER's remarks while discussing modern Quantum Phys'cs ([32], p. 53) : " It is said that there is also an unavoidable and uncontrollable impression from the side of the *subject* on to the *object*. This aspect *is*, new, and, I should say, more adequate any how. For a physical action always is *inter*-action, it always *is* mutual."

SCHRÖDINGER's crucial question in this exciting context, " What remains doubtful to me is only just this : whether it is adequate to term one of the two physically interacting systems the ' subject '. *For the observing mind it is not a physical system, it cannot interact with any physical system.* And it might be better to reserve the term ' subject ' for the observing mind," is met with not only in [4] but also further elaborated in my forthcoming joint paper with SANKARAN, " The Co-Existence of the Mind with the Dynamic Spatio-Temporal Patterns of Activity in the Cortex."

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ACYUTARĀYA MOḌAKA'S 'AVAIDIKA—DHIKKṚTI' (अवैदिक-धिक्कृति)

By

G. V. TAGARE

[1. The Name of the Author, 2. The Native Place of the Author. 3. Some Biographical Information. 4. The Works attributed to the Author. 5. The Present Text. 6. The Description of the MS. 7. Special features of the Work, and Conclusion.]

The Name of the Author

The original name of the famous Sk. scholar, poet, critic and *Vedāntin* Acyutarāya Moḍaka (1778—1833? A.D.) was Rāvajī Viśvanātha Moḍaka (commonly spelt as Raoji Vishwanath Modak). The original home of this Moḍaka family was at Pancanadī, a village near Dābhoḷ, in the Dāpolī Taluq of the Ratnāgiri District (Bombay State). Viśvanātha Nārayaṇa Moḍaka, the father of this author, seems to have migrated from Pancanadī to Kavāḍa (Dist. Thana), and finally settled at Nasik. The name of the author's father appears as 'Nārāyaṇa' also. The family tree as published by the late M. H. Khare, the editor of the family history of this family, gives the following geneology.[1]

Mahādeva
|
Rāmacandra (alias Viṣṇu)
|
Nārāyana
|
Viśvanātha (Acyutarāya's father)
|
Govinda | Dādo | Nārāyaṇa | Hari | Tryambak' | Bāḷājī | RĀVAJI (The Author)

This geneological tree shows that Nārāyaṇa was the name of Acyutarāya's grand-father and elder brother. In the colophon to the *Bodhaikya-Siddhi*[2], our author clearly mentions that Nārāyaṇa Śāstri Sāthe was his preceptor, and Svarūpānanda and Saccidānanda Sarasvatī were his Grand-and Great-grand Preceptors. The Colophon of the MS of *AD* (*Avaidika-Dhikkṛti*) confirms that Nārāyaṇa Śāstrī Sāthe was the name of his preceptor. The Colophon runs as follows: इति श्रीमत्पदवाक्यंप्रमाणक्षीरार्णवविहारिण : श्रीमदद्वैतविद्येंदि (न्दि) रा-परिलालितचरणस्य श्रीमद्वैदैकनिरतत्वकौस्तुभाभरणस्य श्रीमन्नारायणसूरीश्वरस्य पादपद्महंसीभूतमानसेन अच्युतेन विरचिता अवैदिकधिक्कृतिः समाप्तिमगमत् ॥

1. *Moḍaka-Kula-Vṛttānta* p. 198-99.
2. Anandāśram-Samskṛta-granthāvali No. 129, Poona 1951.

Shri Siddheśvara Śāstrī Citrāva, in his *Arvācīna Caritra Koṣa*, mentions VIŚVANĀTHA as Acyutarāya's father, but our MS of *AD.*, contains a verse in the concluding portion which clearly indicates that Nārāyaṇa was the name of our author's father. The verse in question is as follows :

श्रीमन्नारायणाख्यो गुर्हरिव जनको यस्य विख्यात-कीर्तिः।
माता **यस्यान्नपूर्णा**नुपमगुणवती शास्त्रविद्येव साध्वी ॥
यस्य श्रीमान्पितृव्यः समजनि परमाचार्यव**द्रामचन्द्रः**।
कावेरी यस्य धात्री परमहितकरी ब्रह्मविद्यांपमासीत् ॥ १७ ॥

Folio 109

It becomes obvious that the name of Acyutarāya's parents were Nārāyaṇa and Annapūrṇā. The name of his paternal uncle was Rāmacandra. Hence, the the conjecture of M. Krishnamachari[3] that our author was 'probably the son of Nārāyaṇa' was not unfounded, although all the Marathi works about him unanimously regard 'Viśvanātha' as his father's name.

The Native Place of the Author

While I was at Nasik, I was told that Acyutarāya was a born resident of Nasik, and that he spent his life there. It is true that the *Samādhi* of Acyutarāya is in the *Kapāleśvara* temple thereof, and from what I was told it appears that he must have spent the major portion of his life there. A verse giving the biographical account of this author in the MS of *AD* tells that he was born in the Moḍaka family of Vasiṣṭha *gotra*, and that Yogeśvarī, and Koḷeśvara and Paraśurāma were his family dieties. This Moḍaka family belonged to Pancanadī (mentioned above) and had the *Deshmukh Inām* of that area. The verse in question is as follows :

श्रीमद्वासिष्ट(ष्ठ)गोत्रामृतनिधिजनुषां **मोडकोपा**ह्(ह्व)यानां
योगेश्वर्यां च कोल्लेश्वरहरपदयोर्जामदग्न्ये च रामे।
भक्तानां **पंचनद्यां** चिरमुपलभता देशमुख्यत्वमीज्यं
विप्राणां वेद एव स्छि(स्थि)तरमनसां सत्कुले यस्य जन्म॥ ६ ॥

Folio 109

The History of Moḍaka Family (*Moḍaka—Kula—Vṛttānta*) tells us that the Moḍaka family originally belonged to Karle—Bhāṭe—Bhairava—Sthāpan. From that place they migrated to Koḷathare to which place belongs Koḷeśvara, the family god of the Moḍakas. It is from Koḷathare that some Moḍakas went to Pancanadī and settled there for a long time, and they forgot their original home at KarleBhāṭe.[4] Paraśurāma is not mentioned in the Family History (*Kula-vṛttānta*) of Moḍaka family. Acyutarāya mentions Pancanadī as the native place of his family—a fact amply supported by historical documents.

3. *Classical Sanskrit Literature*, para 911 (Madras 1937).
4. *Moḍaka-Kula-Vṛttānta*, p. 17,

Some Biographical Information

The Supplementary Volume of the *Modaka Family - History* (pp. 9-10), is silent about the birth-place of this author. We are told that Ayutarāya was a strong and stout boy, though not much given to studies. But a *Saṁnyāsin* staying in a *Math* near the steps of Kapāleśvara Temple at Nasik saw him, and sent for him. Patting him on the back, he persuaded Acyutarāya to study seriously whereupon our author turned over a new leaf, and became a Sanskrit scholar within a short time.

The Colophon of the *Bodhaikya-siddhi* mentioned above records the name of Nārāyaṇa Śāstrī Sāṭhe only, as the name of Acyutarāya's preceptor, but our MS. of *AD* mentions one Raghunātha Bhaṭṭa in addition to Nārāyaṇa Śāstrī Sāṭhe. The author glorifies both in glowing terms. About Nārāyana Sāstrī, he says that he is veritable god Viṣṇu:

शंखः(ह्व; साख्यं तु मूर्तं कमलमपि नथा योगशास्त्रं विचित्रम् ।
चक्रं कौमोदकी च द्विविध-नय-चयः सेवने यं सदैव ॥
नल्पे पातञ्जल्े यो विल्सति रमया ब्रह्ममीमांसयैव ।
श्रीमन्नारायणाख्यं तमिह गुरुवरं वैदिकेन्द्रं नतोऽस्मि ॥ ९ ॥

Folio 108

About Raghunātha Bhaṭṭa he finally says:

गुरुवररघुनाथश्रीपदाम्भोज-युग्मं, श्रुतिनिरतरतीनां सर्वदासद्विजानाम् ।
अवनमभितनोतु स्वामृनैस्तंत्रगंधादपि सततमितीदं नौमि संस्तत्परागः ॥१२॥

Folio 108

The statement in the *Modaka-Kula-Vṛttānta* that Acyutarāya became a recluse (*Saṁnyāsin*) in his youth needs correction, as he was not a *Saṁnyāsin* till Śaka 1736 (1814 A.D.) when he completed this work (*AD*). Nor was he a Yati, upto the completion of the *Bodhaikya—Siddhi* i.e. Śaka 1756 (1834 A.D.) as he calls himself मोडकोपनाम्नाऽच्युतशर्मणा विद्यार्थिना......

Moḍakopanāmnā Acyuta-Śarmaṇā vidyārthinā

It is after his 56th year (i.e. after Śaka 1756) that Acyutarāya must have become a Yati. The quotation given in the Introduction to Acyutaraya's Commentary ***Pūrṇānandendukaumudī*** on the ***Pañcadaśī***

शाके चन्द्ररसर्षिभू (1761-śaka)-परिमिते ह्याषाढ शुक्ले शुभे ।
तारानायक-वासरे शिवतिथौ सूर्ये खमध्यस्थिते ।
श्रीमत्सच्चिदनन्तनित्यविमलानन्दप्रका(शा)त्मकः
प्रत्यग्ब्रह्म सरस्वती स्वमगमद्रूपं ग......

shows that Acyutarāya passed away on Monday the bright half of Āṣāḍha in the Śaka year 1761. i.e. 22nd July 1839. This verse and the date of completion of *Bodhaikya-Siddhi* (viz. Śaka 1756) shows the need of correcting the date of the death Acyutarāya (viz. शके 1755) as given in the *Modaka—Kula—Vṛttānta* p. 206.

Works attributed to this Author

M. H. KHARE. the editor of the *Modaka—Kula—Vṛttānta*, attributes to him the following 62 works: १ पूर्णानन्देन्दुकौमुदी (com. on पञ्चदशी) २ भागीरथीचम्पू ३ गोदालहरी (with com. प्रकाश) ४ कृष्णलीलामृत ५ नीतिशतपत्र ६ साहित्यसार ७ रामगीत चन्द्रिका ८ प्रारब्ध-ध्वान्त-संहति ९ अद्वैतजलजात (prob. पांडुरंग नारायण साठे the author?), १० महावाक्यार्थमञ्जरी ११ निरञ्जन-मञ्जरी १२ अद्वैतमञ्जरी १३ अकल्पित-चिदम्बरी १४ गीतसोतापति १५ बोधैक्यसिद्धि १६ अद्वैताधिकरण-चिन्तामणिमाला १७ अद्वैत-विद्याविनोद १८ अद्वैतराज्यलक्ष्मी १९ सरसामोद २० मतोपन्यास २१ भामिनी-विलास-व्याख्या २२ सौभाग्य कल्पद्रुम (śaka 1741), २३ अवैदिक-धिक्कृति (wrongly printed as अद्वैतधिक्कृति) २४ स्मरहर-बिहारभाण २५ कृष्णशतक २६ रतिरतिमुकुल २७ विशुद्ध-माधव २८ मृत्युंजयचम्पू २८ भागवत-चम्पू ३० दुःखक्षयेन्दूदय ३१ द्वैतव्यक्तिक्षय ३२ सदाचार ३३ मणिमयादर्श ३४ मुक्तिरयालंक्रिया ३५ ईशकेशादि पादात्तस्तुति ३६ दृश्य-विषयताखण्डण ३७ चिच्चिन्तामणि-चिन्तन ३८ कारुण्य (?)-लहरी, ३९ संयम-संस्कृति ४० अवयोक्तिप्रत्युक्तिमञ्जरी ४१ जगद्विजय ४२ हिरण्यकेशीयाह्निकम् ४३ भूभृद्वाद ४४ शिवस्तवनमञ्जरी ४५ प्रियव्रत-चन्द्रिका ४६ शिवस्तुतिमुक्ताभरण ४७ सिद्धान्त रत्न ४८ रेवापुरुषलहरी ४९ हरिभक्तरसामृतसिन्धुस्तर. The following are commentaries on: ५० अमरकोष प्रथम काण्ड ५१ अमरुशतक टीकार्थ द्वयबोधिनी ५२ गोवर्धन-सप्तशति ५३ सोपान पञ्चक ५४ सदाचार टीका ५५ सदाशिवोक्त आर्याव्याख्या ५६ सौंदर्यलहरी व्याख्या ५७ जीवन्मुक्तिविवेक टीका ५८ शङ्करदिग्विजयकाव्य-टीका ५९ स्वप्नमंत्रत्रयीव्याख्या ६० शृङ्गार कलिका टीका ६१ स्वकृत बोधैक्यसिद्धि टीका ६२ सप्तशति टीका.

Our of these the Commentary on *Kṛṣṇa-līlāmṛta*, *Bhāminī-vilāsa-vyākhyā*, *Sāhityasāra* (with its Commentary *Sarasāmoda*). *Bhāgīrathī Campū* have been mentioned as his published works by M. Krishnamachari. (*Classical Sk. Literature* Paragraph 154, 301, 311, 911, 923). The *Pūrṇānandendukaumudī* on *Pañcadaśī* and *Bodhaikya siddhi* (with Comm.) mentioned above have also been published.

The Present Work : Avaidika—dhikkrti

Avaidika—dhikkrit is a work devoted to the refutation of the *Vāmācāra* of the *Tāntrikas*, especially the *Śāktas*. The indulgence in 5 *makāras* under the pretext of *Śakti*-worship was so popular in the latter half of the 18th Cent. A.D. in Mahārāṣṭra, that righteous minded people indignantly criticised these practices. Acyutarāya was one of those authors who were brought up in the pious tradition of the Advaita school of the Vedānta, and he used his profound scholarship in castigating the *Śāktas* whose practices are unsupported by the Vedas (*avaidika*) according to our author.

The Ms. of this Work

I obtained the MS of *AD.* from the Ms. collection of Shri Bāḷa Śāstrī Khuperkar Kolhapur. The MS is carefully written, though there are a few corrections and marginalia by some later scribe. The MS. contained 110 folios, but the first three folios are lost. Each folio is 11·10″ × 4·2″ and contains 10 lines on each side of the folio. Each line contains 47–48 letters. Folios 3 to 6 and a few more in the body of the MS are worm-eaten. The MS opens on the 3rd folio with the following words: सदाचाराच्च एतेनैतस्यांप्रदायिकत्वं प्रत्याख्यातं न च ब्रह्मविद्यया सर्वकामावाप्तिव्वस्तिभ्यां क्व वा तद्वतस्तदुदयो येन यत्किंचिदनुकूलशद्वादौ प्रवृत्तिस्तदभावे क्व सुतरां पातकेसाविति वाच्यं काम्यंत इति योगेन कामपदशाक्यतावच्छिन्नकामाख्य.........etc.

The colophon contains the following lines:

इति श्रीमत्पदवाक्यप्रमाणक्षीरार्णवविहरिणः श्रीमदद्वैतविद्येंदिरा परिलालित चरणस्य श्रीमद्वेदैकनिरत-त्वकौस्तुभाभरणस्य श्रीमन्नारायणसूरीश्वरस्य पदपद्महंसीभूतमानसेन अच्युतेन विरचिता अवैदिक-धीक्कृतिः समाप्तिमगमत् ।। श्रीरघुवीरगुरुचरणार्पणमस्तु ।। शुक्ते रिवयतः शक्तिः शक्तेरपि च शक्तने। तेनेदं शक्तशक्तेन रचितंशाक्तशातनं ।।१।। श्रीरघुवीरगुरुर्जयति । श्रीमदच्युतचरणारुणनलिनार्पणमस्तु ।।

In a different handwriting is added: श्रीमदच्युतपादाब्जमरंदास्वादलोभिनः। शुद्धवैदैक (वेदैक) निष्ठस्य पुस्तकं श्रीहरेसिद्धम् ।। we knew little about this श्रीहरि mentioned herein.

The information about the author is given as an Appendix (1).

The Contents of the MS.

It is beyond the scope of this paper to summarise the details of this work. As stated above the work contains the refutation of the objectionable practices of the Śāktas (The *pañca-Makāra-pūjā*). The author, in the *pūrva—pakṣa* profusely quotes from different works prescribing or supporting the particular *Vāmācāra*. The refutation is in, chaste, lucid Sk. prose, quoting the relevant standard works on Vedanta and *Purāṇas*. The book is a continuous one, and requires suitable division in chapters while editing. A section of the work is given as the specimen of Acyutarāya's style.

It is hoped that other works attributed to Acyutarāya Modaka will be traced in near future, and notices of their MSS will be published in oriental journals. The publications of these works will throw some light on Sk. scholarship in Mahārāṣṭra in the latter half of the 18th Century, and the early part of the 19th Centry A.D.

The author takes this opportunity to thank Shri. Bāḷa Śāstrī Khuperkar of Kolhapur for allowing the use of his MS. of this work for this paper.

APPENDIX I

Acutarya Modaka's account of himself and his family.

नो लाभाय न कीर्तये न च मया पूजाप्तये वा कृतो
ग्रंथोऽयं परिचित्य शास्त्रनिचयं किंतु द्विजेंद्रानपि ।
मोक्षेच्छूनभिवंचयंति शतशः शाक्ताः कलौ ज्ञानितां
वाङ्मात्रेण पुरो विधान य इमे तद्ध्वस्तितस्तन्मुदे ॥ १५ ॥

श्रीमद्वामिष्ट गोत्रामृतनिधिजनुषा मोडकोपह्वयानां ।
योगेश्वर्यांच कोलेश्वरहरपदयोर्जामदग्ये (ग्न्ये) च रामे ॥
भक्तानां पंचनद्यां चिरमुपलभतां देशमुख्यत्वमीज्यं ।
विप्राणां वेद एव स्थितरमनसां सत्कुले यस्य जन्म ॥ १६ ॥

श्रीमन्नारायणाख्यो गुरुरिव जनको यस्य विख्यातकीर्ति-
र्माता यस्यान्नापूर्णानुपमगुणवती शास्त्रविद्येव साध्वी ।
यस्य श्रीमान् पितव्यः समजनि परमाचार्यवद्रामचन्द्रः
कावेरी यस्य धात्री परमहितकरी ब्रह्मविद्योपमासीत् ॥ १७ ॥

तेनेयं पंचवट्यां विपुलनयवती धिक्कृतिस्तांत्रिकाणां
लक्ष्मीनारायणांघ्र्योर्निकटनिवसता या कृता साच्युतेन ।
स्वस्ति श्री शालिवाहक्षितिपतिजशकाच्छास्त्ररामर्षिचंद्रैः (१७३६)
संख्याते भाववर्षे शशिसितदशमी फाल्गुने सा पूर्णा ॥ १८ ॥

अपक्षपाती मध्यस्थोप्यस्त्ववैदिकधिक्कृतौ ।
वैदिकः सर्वशास्त्रज्ञः सूर्यवज्जगतः स्थितौ ॥ १९ ॥
सदसद्विचारचतुरा विमत्सरा बुधवरा इमां रचनाम् ।
निपुणं परीक्षयंतु रत्नशलाकां यथा वणिक्वर्याः ॥ २० ॥

कृतिरियमद्यध्वातध्वंसे त्रयीमुकुरां कृतिः
कृतिभिरनिशं वीक्ष्या रक्ष्या कृता तु लसत्कृतिः ।
कृतिशतयुताप्यासीन्माया यया कृतसीत्कृतिः
कृति मुनिमनः सैषा पायादवैदिक-धिक्कृतिः ॥ २१ ॥

PRIESTHOOD IN AVESTA AND ṚGVEDA

By

GAJANANA M. PATIL

The priests occupied an important position both in Ṛgvedic sacrifices and the Haoma Yasna. The words "Āthravan" (Av.) and "Atharvan" (skt.) support their presence at both the places. In Ṛgveda we come across the evolution of priesthood so far as their number and names, their duties and their choice etc. is concerned; in Avestan scriptures we hardly find such details. Though Soma sacrifice of the Ṛgveda and the Haoma Yasna of Avesta are more or less the same pattern of ritual, with a little variation in details, still the number of priests referred to in the scriptures varies to a great extent. In Ṛgveda, we find two sections of priests. In the very opening verse of Ṛgveda we find Agni being called as Purohita and Hotā. (*Agnim īḷe purohitam yajñasya devam ṛtvijam / Hotāraṁ ratnadhātamam //* Rv. I. 1.1.). Purohita, as we traditionally understand, indicated perhaps the family priest attached to the family. He did not require any special qualifications except that he came from a Brahmin priestly family attached to another family and that he was conversant with the domestic rites and performances. Moreover, in Ṛgveda, we do not find the Purohita being chosen, because there did not arise the question of his choice. On the contrary Hotā was to be chosen for special occasions (*Hotāram tvā vṛṇīmahe /* (Rv. X. 21·1 ; *Hotā Vṛto*-Rv. X 52·1) and he was to be the most worthy Hotā (*ni no hotā vareṇyaḥ /* Rv. I. 26·2; *pratno Hotā vareṇyaḥ /* Rv. II. 7·6) And this choice necessarily lay on the priest who was experienced and perfectly conversant with the special type of performances such as the soma sacrifice of Ṛgveda or what have been called in later times as Śrauta sacrifices. The domestic rites were few, limited and perhaps finally established in the Aryan community and thus there was no scope for the development in the ritual and eventually for the development of the domestic priesthood. Purohita continues throughout as Purohita only without any colleague or assistant. But the newly established soma sacrifice was evolving gradually and was being enlarged from generation to generation. This required the growth in the number of priests too. And starting from Hotā as the solitary ancient priest at Ṛgvedic sacrifice, we come across a stage in Ṛgveda itself where not less than twelve priests have been referred to in one place (*Adhvaryubhiḥ pañcabhiḥ sapta viprāḥ* - Rv. III 7.7).

Out of these, seven priests have been clearly named in Ṛgveda (*tavāgne hotram tava potram ṛtviyam tava neṣṭram tvam agnidṛtāyataḥ/ tava praśāstram tvam adhvarīyasi brahmā cāsi gṛhapatiś ca no dame //* Rv. II. 1·2; X 91·10). Perhaps the number "seven" was equally favourite and auspicious with the Ṛgvedic idealogy as with number 'three.' One has to be very careful while discussing about these

priests and has to confine the discussion to Ṛgveda only. Because in later Brāhmaṇic period, we find the number of priests at the soma sacrifice raised to sixteen. Some priests have been newly added to the old Ṛgvedic number and the duties of some of the old priests have been altered or divided. For example, Udgātā has not been included in the above list even though he is referred to once only in Ṛgveda. (*Udgāteva śakune sāma gāyasi* / Rv. II. 43·2). The same is the case with grāvagrābha (*Hotādhvaryurāvayā agnimindho grāvagrābha uta śaṁstā suviprah* /...Rv. I. 162·5). Unnetā, Acchāvāk, Subrahmaṇya etc. of the Brāhmaṇic sacrifice are not noticed at all in Ṛgveda. The fixed number of priests as "seven" (*sapta hotṛbhiḥ*—Rv. III. 10·4; *sapta hotṝn* -Rv. X 35·10, 61·1 etc. *sapta jāmayaḥ*-Rv. IX. 10·7; 66.8.) and their mention by names perhaps indicates that those were the "recognised" priests, sanctioned by usage; other priests are minor and optional. One more noteworthy fact is that, Purohita who must have been present at every auspicious ritual at his host's house is also not included in the list. He might be the eighth non-recognised priest. In fact, Potā is referred to as eighth priest in one passage (*manuṣvad daivyam aṣṭamam potā vi vam tadinvati*-Rv. II 5.2)

Such development in the priesthood is not noticed in Avesta. At present we trace only two priests at Haoma Yasna. And from these two priests, viz. Zoota and Rathwi, Dr. HAUG has pointed out that the Ṛgvedic Aryans and Avestan Iranians must have separated from each other at an earlier stage when the Ṛgvedic ritual had only two priests in the beginning (*Ait.Br.Intro.*, p. 13) At another place, the same scholar has shown that four priests of Avesta correspond with their Ṛgvedic colleagues in offices and duties. He maintains that (1) Zaota, (2) Rathwi, (3) Sraoshvareza and (4) Atārevakhsho are the Avestan equivalents of (1) Hotā, (2) Adhvarya, (3) Pratiprasthātā and (4) Āgnīdhra of the Ṛgvedic sacrifice. (*Cf.* Essays on Parsees", p. 237).

But the identification of the Ṛgvedic and Avestan priesthood does not end here only. The closer investigation of the Avestan scriptures indicates to us that they were acquainted with many more priests whose corresponding colleagues we find in Ṛgveda. In vendidad Fargard V.57 we find eight angels being mentioned which include the names of two existing priests. The names of these spirits or angels are as follows. (*Cf. Ency. of Religion and Ethics.* Vol. X p. 220; *History of Zoroastrianism*—DHALLA. p. 254.)

(*i*) Zaotar, (2) Hāvanam, (3) Atārevakhsha, (4) Fraberetar, (5) Aberetar, (6) Asnatar, (7) Rathwiskare, (8) Sraoshavarez.

Let us compare the duties of these priests and compare them with Ṛgvedic priests.

(1) Zaotar (now called Zot or Zoti), the chief priest, is the Iranian substitute of Ṛgvedic Hotā and performs the sacred duty of reciting the invocation from Gāthā addressed to God when ritual is in progress.

(2) Hāvanam—Hāvanam and Lāla in Avesta mean the mortar and pestle. The duty of this priest must have been to hold the mortar and pestle and to found the Haoma plant. He is also called Āpravanan. He represents the Ṛgvedic prist Grāvagrābha (Grāvastut) (Ṛv. I. 162.5) whose duty as the name indicates is to hold the pressing stones and to praise them (*Grāvagrābhaḥ grāvṇaḥ stutyā gṛhṇātīti grāvastut*—Sāyaṇa on Ṛv. I. 162.5).

(3) Atārevakhsha (Av. Atār - fire)- His primary duty is to hold the vessel containing sacred fire and to feed and lead the fire at the ritual. He also washes the three sides of the fire-altar and makes responses to the Zaotar. He is Agnimindha (Ṛv. I. 162·5) or Agnit (Āgnidhra) (Ṛv. II. 1·2.) of Ṛgvedic ritual with exactly the same duties.

(4) Fraberetar is entrusted with the work of handing over utensils to Zaotar. He also washes the fourth side of the fire-altar. His is a minor function at the ritual and as such represents the Ṛgvedic Neṣṭā who has no special duty but is a recognised priest (Ṛv. II. 1·2)

(5) Aberetar (also called Dānazvāza) brings water required for the ritual and has no other active work in the ṛite. He appears to be like the Ṛgvedic priest Udagrābha (similar to Grāvagrābha) who is not a recognised priest but must have existed as a minor priest. Or perhaps, he represents Purohita, not as a family priest, but as a non-recognised minor priest ever present at the ritual of his host and helping the sacrificial priest in minor work.

(6) Asnatar is the cleanser in the ritual and he has to wash and filter the Haoma juice which after the consecration becomes Para-Haoma. As the purifier of the juice, he is identical with Potā (Ṛv. II. 1·2) whose chief duty is the purification of the Soma juice.

(7) Rathwiskare, later on known as Rathwi or Raspi, is the auxiliary priest who assiṣts Zaotar and does the manual work at the sacrifice. On phonetic similarity as well as from the duties of Rathwi, he can be said to correspond with Ṛgvedic Adhvaryu. In Indian ritual, the offerings are many and they are to be made into the fire accompained with the prose formulae. In Iranian sacrifice, the offerings are few and they are simply to be shown before fire along with the recitation of liturgies. Thus Rathwi's work is much less and easier than Adhvaryu's.

(8) Sraoshavareza is the master of the ritual and the superintendent of the whole ceremony. In later Indian ritual, we have a special priest, Brahmā, appointed for the supervision of the ritual and he appears in the list of the seven Ṛgvedic recognised priests (Ṛv. II. 1.2.). But in Ṛgveda, it appears that the function of the priest was mostly that of singing the chants. This inference can

be validly drawn from the fact that sāma singing was an essential and exclusive feature of the Soma sacrifice. That sāma singing was prevalant is definitely and conclusively proved from such references as " Sāma " (...*aṅgirasām sāmabhiḥ stūyamānāḥ* Ṛv. I. 107·2 ; *tam arkebhis tam sāmabhiḥ*...... / Ṛv. VIII. 16.9. etc.). " Sāmagā " (*ubhe vācau vadati sāmagā iva-* / Ṛv. II. 43·1 ; *yajñyanyam sāmagā-mukhaśāsan* / Ṛv. X 107·6) and references to particular sāmas such as " Bṛhat " (*Bṛhadgāyantaḥ*....../ Ṛv. VIII 66·1 ; *Bṛhad indrāya gāyata*....../ Ṛv. VIII. 89·1 ; ...*Viprāya bṛhate bṛhat*....../ Ṛv. VIII. 98·1 etc.), Rathantara (*rathantare sūryam paryapaśyat*...... / Ṛv. I. 164·25 ; *rathantaram ā jabhārā Vasiṣṭhaḥ*...... / Ṛv. X. 181·1) and Pṛṣṭha (*yavham pṛṣṭham prayasā saptadhātu* / Ṛv. IV 5.6.). The sāma singer is not included in the standard list of the priest, even though he appears elsewhere. (Udgāteva etc. Ṛv. II 43.2). Sometimes this Brahmā priest might be reciting liturgies which work is relegated to Brāhmaṇācchaṁsin in later ritual. In fact, Sāyaṇa commenting on Ṛv. II 36·5 interpretes the term Brahmā or Brāhmaṇa as Brāhmaṇācchamsin (*brāhmaṇāt brāhmaṇācchaṁsino yāgāt*). Brahmaputra (same as Brahmā) is referred to as reciting praises at the pressings (*brahmaputra iva savaneṣu śaṁsasi* .. / Ṛv. II 43 2). There are other references also where Brahmā recites litanies (*Cf.* Ṛv. V 31·4 ; VIII 96·5 etc.) . Moreover the Ṛgvedic ritual was not so elaborate as to require a superintendent. Thus the Avestan priest cannot be Ṛgvedic Brahmā. Dr. HAUG holds Pratiprasthātā as the Ṛgvedic representative of Avestan Sraoshavareza (*Cf. Essays on Parsees*, 237). His arguments for the view are that the Brahmanic priest holds in his hand a wooden sword at the time of the ritual to guard the sacrifice from the evil spirit and to drive them away. In Avesta, (Yas·57. 15, 18) Angel sraosha protects the whole world with the sword drawn and Dr. Haug is of the opinion that Iranian priest represents Angel sraosha ; and therefore Pratiprasthātā may be identified with sraoshavareza. But this view cannot be accepted. The first objection to the theory is that Pratiprasthātā is not a Ṛgvedic priest. He is a later addition of the Brāhmaṇic age. In his commentary on Ṛv. I. 162·5, Sāyaṇāchārya interpretes the word Āvayā by saying that 'it may mean' Pratiprasthātā (*yadvā ābhimukhyenāvayaṣṭā pratiprasthātocyate* /). But this is only an alternative interpretation which cannot be accepted or may be treated as of much less importance. Earlier Sāyaṇa remarks on the same word as being an adjective of Adhvaryu (*sopi āvayāḥ ābhimukhyena haviṣām gamayitā* / *adhvaryor viśeṣaṇametat* /) Thus Pratiprasthātā does not appear to have existed even as a minor Ṛgvedic priest. And as stated earlier, we compare Avestan and Ṛgvedic priesthood so far as it is confined to Avestan and Ṛgvedic scriptures only.

The second objection is that to represent Angel sraosh by an Iranian priest and again to turn him into a spirit is more of a fancy rather than a sound argument. It is not supported by any other evidence except that the first part of the name is that of the angel. Thirdly, the Iranian priest is nowhere described as

having a wooden sword or any other weapon in his hand. Again Dr. HAUG himself identifies the Iranian priest with Āgnīdhra (*Ait Br.*—Introduction, p. 15) which contradicts the earlier identification. On the contrary, the Iranian priest is easily identified with Praśāstā (Rv. II. 1.2) who happens to be the recognised Ṛgvedic priest and who, holding a wooden rod in his hand as the symbol of his office, issues orders to various priests. (*Cf. praśāstā prakarṣeṇa śātā sarveṣām śikṣakosi* | *yadvā, " hotar yaja, potar yaja " ityādinā praiṣeṇa śāstīti maitrāvaruṇa praśāstā* | Sāyaṇa on Rv. I. 94.6). He was called Maitrāvaruṇa in later ritual. Thus Iranian priest Sraoshavareza is Ṛgvedic Praśāstā.

From the above discussion it is clear that the Avestan scriptures were acquainted with the eightfold division of priesthood. But the reformist Zoroastrianism did not permit a lengthy and complicated sacrificial ritual. The simplification of the ritual brought down the number of priests to two only. But the respect for the ancient custom cannot be so very easily forsaken. The original pre-Zoroastrian eight priests were spiritualised in post-Zoroastrian days. Thus pre-Zoroastrian Iranian ritual had also eight priests and at least six of them viz. Zaotar, Atarevakhsho, Fraberetar, Asnatar, Rathwi and Sraoshavareza can be completely identified with Hotā, Āgnīdhra, Neṣṭā, Potā, Adhvaryu and Praśāstā. Havanam has his correspondent in Grāvagrābha and Aberetar is a substitute for Purohita. Though Ṛgvedic Brahmā does not seem to have an Avestan representative, still such a singer of the sacred chants must have existed even in Iranian ritual as can be judged from the word " Gāthā " which is derived from √" gai " to sing and which is applied to the sacred compositions of Zoroaster.

The existence of the eight priests in the Avestan ritual can be well supported by another strong evidence. In the modern Ijāśne ceremony, all the eight priests are not recommended; still their spiritual presence is acknowledged. At the beginning of the ceremony Zaotar calls out the names of all these priests and Atarevakhsho (Rathwi or Raspi is also called by this term, because he does the work of that priest). Standing in their respective seats (similar to dhiṣṇyā of the Ṛgvedic ritual. *Cf.* Rv. IV 3.6) which are allotted to them, they respond to the call. Thus symbolic presence of eight priests is customary and essential.

In conclusion, it can be remarked that a very great and close affinity existed between the pre-Zoroastrian Avestan ritual and Ṛgvedic sacrifice and that Iranians were separated from their Indian brothers at a very late and developed stage of the Ṛgvedic sacrifice when that ritual had as many as seven or eight recognised priests who had their separate offices and duties and when Ṛgvedic sacrifice was not much elaborate and complicated.

ON SOME 'LAUKIKA' WORDS CITED IN THE COMMENTARIES OF CAKRAPĀṆIDATTA (ON CARAKA) AND ḌALHAṆA (ON SUŚRUTA)

By

S. M. KATRE

My attention was drawn several years ago by Dr. P. K. GODE to a number of interesting words which he found quoted in the commentaries by Cakrapāṇidatta and Ḍalhaṇa respectively on Caraka and Suśruta-Saṁhitās. Many of these words exhibited characteristics of New Indo-Aryan. Considering the fact that both Cakrapāṇidatta and Ḍalhaṇa lived in the 11th-12th centuries,[1] according to the findings of D. C. BHATTACHARYA these citations have a particular value in assessing the growth of New Indo-Aryan dialects at a period when they were in a formative stage. Consequently I made a rapid survey of these citations from both the commentaries and added to them from time to time when similar forms of interest occurred in these commentaries.

The group of words can be divided into three main categories. The first one is introduced by the expression *iti loke*, and in consequence have given the title to the present paper. The second group is introduced by the expression *iti khyātaḥ*. The third consists of incresting words which show phonological characteristics of New Indo-Aryan or special features which may be non-Aryan loans within Indo-Aryan. The present paper only records the citations and does not attempt to trace the cognates of such words either in New Indo-Aryan or other modern Indian languages.

From the point of historical linguistics the citations are interesting. Since the dates of both commentators have been fixed within rigid limits, we have definite illustrations here of words current during the period of these commentators. Quite a large number have not been recorded in existing dictionaries either in the particular phonemic forms or in the significances attached to them in the individual contexts.

One chief difficulty in dealing with them adequately here is the fact that we have no critical editions of the texts of the commentaries. A few variants have been recorded by the learned editor, but it is not sufficient to carry on a linguistic discussion. I have, therefore, not thought it fit to enter into linguistic discussions in this paper.

[1] *IHQ* 23.123—155 (1947). 'Ḍalhaṇa's date is about 1200 A.D.' p. 132. 'Cakrapāṇi wrote his compendium in the decade 1043-50 A.D.' p. 135.

A rather significant fact emerges from a study of these interesting forms. The citations have a local basis as current among specified speech communities which, sometimes, have been indicated by directional terms (such as Pūrvadeśa, etc.) or more exact geographical locations (Pauṇḍra, Kānyakubja, etc.).

A continuous study of such local usages will give us an insight into the geographical distribution of linguistic features and constitute a distinct contribution to linguistic geography. In particular Ḍalhaṇa's commentary abounds in remarks which will yield larger material than is collected here showing the geographic distribution of linguistic facts during his particular period and field of observation.

The editions used for giving citations are those edited by the late Vaidya Jadavaji Trikamji ACHARYA and published by the Nirnaya Sagar Press :

Carakasaṁhitā by Agniveśa with the Āyurveda-Dīpikā of Cakrapāṇidatta (3rd ed. 1941).

Suśrutasaṁhitā with the Nibandhasaṁgraha of Śrī Ḍalhaṇācārya (3rd ed.1938).

akhroṭ : *walnut* ; akṣoḍo madanaphalākāraphalo madhye kiṁcidunnatarekhānvitaḥ parvatapiluh 'akhoṭ' iti loke. S 228 b. [*Cf.* ākṣotaḥ, ākṣoḍakaḥ, ākhoḍakaḥ]

agathīyā : *Agasti grandiflora* ; agastyaḥ 'agathīyā' iti loke. S 234 b.

agastyamodaka : ayaṃ yogas tantrāntare 'agastyamodaka' iti khyātaḥ C 671 b.

agnivadhū : *Premna Spinosa* ; agnimanthaḥ 'agnivadhūḥ' iti pūrvadeśe prasiddhaḥ S 171 b. agnimanthaḥ 'agnivadhū' iti loke S 169 a.

aṅkolla : *the plant Alangium Hexapetalum* ; aṅkoṭhaḥ saṁgrāhī cīritasvalpapatraḥ 'aṅkolla' iti loke S 161 b. [*Cf.* aṅkoṭaḥ, aṅkoṭhaḥ, aṅkolaḥ, aṅkolakaḥ.]

aṅgeśūra : *Premna Spinosa* ; agnimanthaḥ tejovṛkṣaḥ 'aṅgeśūra' iti loke S 165 a.

atigati : atigatiḥ = dūrapraveśaḥ. C 702 a.

Adhaḥpuṣpī : *the plants Pimpinella Anisum or Elephantopus Scaber* (*or Hieracium* ?); avākpuṣpī 'adhaḥpuṣpī' iti khyātā C 630 b. *Anathem Sowa Roxb.*

anuyā : anupāki 'anuyā' iti khyātaḥ C 161 b.

andhaḍaka : *Achyrathes Aspera* ; apāmārgaḥ śikharī 'andhaḍaka' iti loke S 171 a.

apratānta : apratāntaḥ = abubhukṣitaḥ. C 525 b.

abhiṣu : abhiṣukaḥ 'abhiṣuḥ' iti like S 228 b.

amarā : *the umbilical cord.* aparā nābhināḍīpratibaddhā 'amarā' iti loke khyātā C 335 a.

amrāṭaka : *hogplum, Spondias Mangifera* ; āmrātakam āmraphalasadṛśam 'amrāṭakam' iti loke S 226 b. (*Cf.* amrātakaḥ).

amlacāṅgerī : *wood sorrel* ; cāṅgerī 'amlacāṅgerī' iti loke S 233 b.

ayatna : ayatnena iti = alpāyāsena C 704 b.

arimañja : *a fetid Mimosa Vachellia Farnesiana* ; arimedaḥ 'arimañja' iti loke S 66 a.

arīṭhā : *soapberry tree, Sapindus Detergens Roxb.* ; ariṣṭaḥ kṛṣṇavartulaphalo 'arīṭhā' iti loke prasiddhaḥ S 361 b. ariṣṭakam kṛṣṇaphalam 'arīṭhā' iti loke S 604 b. (*Cf.* ariṣṭakaḥ).

alasī : *common flax, Linum Usitatissimum* ; atasī 'alasī' iti loke S 161 a.

allā : ārdrā kustumbarīti puṣpaphalopeto haritadhānyaviṭapa ārdrā kustumbarīty ucyate 'allā' iti loke S 231 b.

AVADHAMAYA : avadhamayatīti vilikhatīty arthaḥ, anekārthatvād dhātūnām C 153 a.

avaram -- dravyādi C 591 b.

aśokarohinī : aśorasadṛśapatrā latā ; 'kaṭurohinī' ity anye C 656 a.

asphuramallikā : *Jasminum Sambac* ; *Clitoria Ternatea, Echites Frutescens, Echites Dichomoma* ; āsphoṭā 'asphuramallikā' iti loke khyātā C 521 a.

ahimṛttikā : samṛttikāḥ sakṛṣṇamṛttikāḥ 'ahimṛttikā' iti kecit paṭhanti. atra ahimṛttikā valmīkamṛttikā ; 'agavṛttikā' iti Jejjaṭācāryaḥ ; tatra agavṛttikā śallakī.

āgatha : *Premna Spinosa* : agnimanthas tejovṛkṣaḥ pūrvadeśe āgatha iti prasiddhaḥ S 165 a.

āḍaka : āgārakarṇikā gṛhācchādanamadhye gṛhācchādanakāṣṭhanibandhanī loke 'āḍakam' ity ucyate C 184 a. (*Cf.* Konk. āḍḍē *beam, rafter*].

āmaḍā : āmrātam 'āmaḍā' iti khyātam āmraphalasadṛśam iti Candrikā C 161 b.

āmoda : *Asparagus Racemosus* ; puṣkaravartiḥ 'āmodam' ity uttarāpathe S 227 b.

āmrāḍaka : āmrātakaḥ 'āmrāḍakah' C 32 b. *v.s.v.* āmaḍā

ārāmataruṇī : taruṇī ārāmataruṇī navamālikā vā C 726 a.

āvī : prasavakālaśūlam C 345 b.

āsanta : *Bauhinia Tomentosa* : aśmantako yamalapatrakaḥ 'āsanta' iti loke S 227 b.

ā-Su : āsutya -- niṣāparyuṣitam kṛtvā C 657 a.

āsphotā : *Jasminim Sambac* ; *Clitoria Ternata* ; *Echites Frutescans or Dichotoma* ; āsphotā sārivā S 47 b. (and text 46 b).

iṅgudī : *Terminalia Catappa* ; śravaṇaḥ tāpasavṛkṣaḥ 'iṅgudī' iti loke S 508 a.

indravadhū : indragopakaḥ prāvṛṭkālaja udbhijjaḥ 'indravadhūḥ' iti loke, sa ca anekaprakāravarṇaḥ, atra tu rakta eva gṛhyate S 64 b.

ukuḍu : *squatting* ; gudapārṣṇīsamāyogaḥ prāhur utkaṭukāsanam 'ukuḍu' iti loke S 271 a. [*Cf.* Konk. ukḍe *and* Sk. utkuṭaka-- *and* utkuṭuka-].

uḍikā : *wild rice* ; nīvāraḥ C 154 b.

utkārikā : *v.s.v.* utkruñcā.

utkruñcā : tilavātāmādīnāṁ dṛṣadi piṣṭānām uṣṇodakamṛditā piṇḍā 'utkruñcā' ucyante ; 'utkārikā' ity anye C 525 b.

uttamāraṇī : *Asparagus Racemosus* ; ajaśṛṅgī chāgalaviṣāṇikā 'uttamāraṇī' iti loke *Odina Wodier used as a charm or as a remedy for sore eyes* S 467 a.

utpalasārivā : *Ichonocarpus Frutescens* ; anantā 'utpalasārivā' S 419 b ; S 580 b. 613 a.

udīmānaka : nadīmāṣakaḥ 'udīmānaka' iti khyātaḥ C 160 a.

undurī : *Salvinia Cucullata* ; undurukarṇikā mūṣikakarṇikā 'undurī' iti loke : undurakarṇīṁ dravantīm āhur anye, apare dantinīm āhuḥ : 'undura-karṇā' ity eke paṭhanti, tatrāpi sa evārthaḥ. S 166 a.

upacaya : upacayaḥ : dehapuṣṭiḥ C 512 a

upaśīrṣaka : *a kind of disease of the head* : śirasaḥ sughoram ity atra lakṣaṇaṁ tridoṣakṛtaṁ nāma ca śiraḥśotha iti vijñeyaṁ, tantrāntare ayam 'upaśīrṣaka' ity uktaḥ C 488 b.

umā : *flax. Linum Usitatissimum* ; atasī 'umā' iti khyātā, C 82 a.

ulajīdhānya : nīvāraḥ (*wild rice*) prasātikā (a *kind of rice with small grains*), dhānyamadhye raktaśūko bhavati (*red rice* ?) 'ulajīdhānyam' iti loke, S 103 b. [*Cf.* ulâḥ *half ripe pulses fried over a slight fire.*]

ulikādhānya : *wild rice* ; nīvāra ulikādhānyam S 453 b.

uluyātṛṇa : darbha uluyātṛṇam C 33 a.

oḍikā : ambhaḥśyāmākā jalajā oḍikā loke 'ḍe' ity ucyate C 154 b.

odana : *otter* ; odraḥ pānīyabiḍālaḥ 'odana' iti loke S 223 a. (*Cf.* odakám *an animal living in water.*)

kaṅkuṣṭha : *medicinal earth* (acc. to S) ; *Cleome Felina* ? kanakakṣīrī 'kaṅkuṣṭha' iti khyātā C 456 a.

kaṅgunikā : *panic seed, Panicum Italicum* : priyaṅguḥ 'kaṅgunikā' iti loke S 216 b. (*Cf.* Sk. kaṅgu(ḥ) '-ṅkaḥ'-nī *Celestrus Paniculatus*).

kaṅguṣṭha : *kind of plant* ; suvarṇakṣīrī anantāsadṛśapatrā 'hiyāvali' iti loke 'kaṅguṣṭha' ity apare S 170 b. [*Cf.* kaṅkuṣṭha-].

kacchoṭaka : gophaṇikā kaupīnaṁ kacchoṭaka ity arthaḥ S 412 b. [*Cf.* kacchaṭikā. kacchāṭikā, kacchāṭī, kacchoṭikā *end or hem of a lower garment or cloth*].

kaṭahala : *jack-fruit tree, Artocarpus Integrifolia* ; panaso bahiḥkaṇṭakī mahāphalaḥ 'kaṭahala' iti loke S 42 b. panaso bahiḥkaṇṭakiphalaḥ 'kaṭahala' iti loke, tasya phalasadṛśāni S 273 b.

kaṭīhala : panaso bahiḥkaṇṭakī mahāphalaḥ 'kaṭīhala' iti loke S 228 a.

kaṭvara : kaṭvaram = takram C 615 a.

kaṇa : '*broken rice*' ; taṇḍulakaṇḍanaṁ guṇḍanaṁ 'kaṇā' ity arthaḥ S 58 a [*Cf.* Sk. káṇaḥ *grain*, kaṇā *minute particle.*]

kaṇavīra : *Oleander, Nerium Odorum* ; karavīraḥ 'kaṇavīra' iti loke S 171 a.

kaṇṭakārī : dvīpikā = hiṁsrā ; 'kaṇṭakārī' ity anye C 655 b.

kaṇṭaseluā : *Baleria Cristata* ; saireyakadvayaṁ raktapuṣpa nīlapuṣpa - kaṇṭaśeluādvyam S 165 a. [*Cf.* Sk. seluḥ, śeluḥ *Cordia Myxa.*]

kaṇṭāśeluā : *Yellow amaranth or Barleria* ; kuruṇṭakaḥ pītapuṣpaḥ 'kaṇṭāśeluā' iti loke S 164 b.

kaṇṭikāyā : *lizard chamelion* ; kṛkalāsaḥ 'kaṇṭikāyā' iti loke S 134 a.

kaṇṭhaśālūka : *hard tumor in the throat* ; nāmabhedas tu śalyādiṣu vistareṇokto' pi 'kaṇṭhaśālūka' ityādinā leśenābhihitaḥ C 488 b.

katolī : *kind of white wine* ; śvetasurā śvetapunarnavādimūlaśālipiṣṭakakiṇvaprabhavā 'katolī' iti prasiddhā S 210 a.

kadalīhaṭṭa : *plantain tree, Musa Sapientum* ; kadalī kadalīhaṭṭa iti khyātaḥ C 156 a.

kadalīhaṇḍa : a *kind of wild cat*; kadalī mahābiḍālasamo vyāghrākāraḥ 'kadalīhaṇḍa' iti Pauṇḍre prasiddhaḥ ; anye sarpaviśeṣam (*a kind of snake*) āhuḥ ; apare kadalīmṛga iti samastaṁ paṭhanti tatrāpi sa evārthaḥ S 222 a.

kadumbarī : *Ficus oppositifolia* ; phalguḥ kākodumbarikā 'kadumbarī' iti loke S 227 b. [*Cf.* Sk. kākoḍumbara-, -rī, -rikā.]

kanakavāyasa : *blue jay* ; cāsaḥ (cāṣaḥ) 'kanakavāyasa' iti khyātaḥ ; *v.l.* kānanacaṭakaḥ C 156 a. [*Cf.* Sk. cāṣaḥ.]

kayara : *kind of partridge* (*commonly Kayar, Perdix sylvatica*) ; krakaro lāvāntako kapiñjalāt sthūlaḥ 'kayara' iti loke S 220 a [*Cf.* Sk. krakanaḥ].

karakaca : sāmudraṁ dakṣiṇasamudrabhavaṁ 'karakaca' iti khyātam C 21 b. [*Cf.* karakacaḥ nakhe Vai.Nigh.]

karakarimā : *friction* ; saṁgharṣaḥ karakarimā S 603 b. [*Cf.* Sk. karka-, -ra-, -śa-, hard.]

karaṭāśana : *the blue jay* ; cāṣā indranīlamaṇisadṛśapakṣaḥ śastadarśanaḥ 'karaṭāśana' iti loke prasiddhaḥ S 221 b.

karamadī : *Carissa Carandas* ; karamardī kṣīraphalā 'karamadī' iti loke S 169 ab.

karīra : karīraḥ : marujadrumaḥ C. 638 b.

karkaṭaka : *a beast of prey* ; śvadaṁṣṭrā caturdaṁṣṭro'tiduṣṭaḥ 'karkaṭaka' iti loke S 95 a ; śvadaṁṣṭraś caturdaṁṣṭro' tiduṣṭaḥ 'karkaṭaka' iti Kārtikapure prasiddhaḥ S 219 b.

karcūra : *turmeric* ; 'karcūra' ity anye paṭhanti ; karcūraḥ śaṭī S 171 b.

karpūraka : *a kind of civet-cat*; pūtighāso vṛkṣabiḍālaḥ sugandhivṛṣaṇaḥ 'karpūraka' iti loke S 221 b.

kalama : *a variety of rice* ; kalamo vedāgrahāreṣu svanāmaprasiddhaḥ. C 153 b.

kalavi : kalamo'ntarvedyāṁ 'kalaviḥ' iti loke S 214 b.

kalāvi : kalamaḥ śāliviśeṣaḥ ' iti ' kalāviḥ ' loke prasiddhaḥ S 94 b.

kalinda : *water melon* ; kālindaṁ kṛṣṇabījaṁ kūṣmāṇḍasadṛśaṁ ' kalinda ' iti loke S 230 a.

kalihārī : *Methoni(c) a Superba* ; tatra anantā lāṅgalikā ' kalihārī ' iti loke S 232 b.

kavaḍaveṇḍuā : kapolapallī 'kavaḍaveṇḍuā ' iti khyātā C 284 a.

kavaḍigaṇā : *domestic or house lizard* ; kuḍyakīṭaḥ 'kavaḍigaṇā ' iti khyātaḥ ; *v.l.* karaḍikāṇā ; C 343 b.

kavaḍiyā : *the wagtail* ; khañjarīṭaḥ sitāsitavarṇo drutalalitagatiḥ ' kavaḍiyā ' iti loke S 221 a.

kavalekhū : *Vanda Roxbughii or Hedyasarum Gangeticum* ; vṛkṣādanī bandākaḥ ' kavalekhū' iti loke S 165 a.

kavahaka : kaccako madhyalekhānucitaḥ ṛjukapatra īṣad raktamūlaḥ ' kavahaka ' iti Mālavake prasiddhaḥ S 435 a.

kavahā : ārtagalaḥ (*Barleria Caeruli*) kakubhaḥ (*Terminalia Arjuna*) sugandhamūlaḥ (*Averrhoa Acida* ? *Cf.* sugandhamūlā) S. 165 a.

kastūrīmṛga : *musk-deer* ; karālo ' dhoniṣkrāntadanto himavadādiparvateṣu ' kastūrīmṛga ' iti loke S 219 b.

kākatindukā : *a kind of ebony. Diospyros Tomentosa* ; kākādanī (*the plant Capparis Sapiaria*) kākatindukā S 665 b. [*Cf.* kākenduḥ *Diospyros tomentosa*].

kākamardanikā : alavaṇā jyotiṣmatī vartulapakvaraktaphalā pītatailā ' kākamardanikā ' iti loke prasiddhā S 165 b. [*Cf.* Sk . kākamarda (ka)h a *kind of gourd, Cucumis colocynthus.*]

kākavī : *molasses* ? rasakriyā phāṇitākṛtiḥ (*inspissated juice of sugar cane*) ' kākavī ' iti loke S 162 a ; phāṇitaṁ kṣudraguḍaḥ ' kākavī ' iti loke S 209 a.

kākūi : *a comb* ; keśaprasādhanī kaṅkatikā ' kākūi ' iti loke S 488 a.

kāṅkasī : sahadevī (*Sida Cordifolia and Rhombifolia*) balābhedaḥ pītapuṣpā (*colocynth* ? *Cajanus indicus* ?) ' kāṅkasī ' iti loke S 164 a.

kāṅkaī : kaṇṭakī (a *species of Solanum*) vikaṅkataḥ (*Flacourita Sapida*) vṛkṣakaṇṭakārikā iti prasiddhā ' kāṅkaī ' iti loke S 164 b.

kāṅkṣī : kāṅkṣī — Saurāṣṭrī mṛt C 639b ; spṛkkā ityādau kāṅkṣī = saurāṣṭrikā C 574 b.

kāṅgaṇikā : jyotiṣmatī (*Cardiospremum halicacabum*) kāṅgaṇikā C 422 a.

kāṅganī : *panic seed, panicum Italicum* ; priyaṅguḥ ' kāṅganī ' iti prasiddhā C 154 b.

kāca : timirākhyaḥ timirasaṁjñaḥ, rāgaprāptasya ca timirasya ' kāca ' iti saṁjñā S 606 b.

kāṇa : kāṇakapota ity atra kāṇaśabdaḥ alpavacanaḥ, yathā kāṇo meghaḥ C 131 a.

kāyaphala *N. of small tree, the aromatic bark and seeds of which are used in medicine*; kaṭphalaḥ 'kāyaphala' iti loke S 165 b; kaṭphalaḥ somavalkaḥ (*Acacia arabica, a kind of karañja*) 'kāyaphala' iti loke S 166 a; 167 b; kaṭphalaḥ 'kāyaphala' iti loke S 169 a.

kāyuyāṭuṭī: kākanāsā -- vāyasīphalam; anye tu vāsāphalaṁ 'kāyuyāṭuṭī iti khyātaṁ dravyāntaram āhuḥ C 698 b.

kāruṇḍā: *a centipede*; śatapadī kāruṇḍā C 578 b. [*Cf.* Sk. kāruṇḍikā, kāruṇḍī *a leach.*]

kālacaṭaka: *Eclipta Prostrata*; bhṛṅgarājaḥ 'kālacaṭaka' iti Pāriyātrīyāḥ; Kānyakubjās tu'peṅgi' iti S 31 b.

kālamāla: *Ocimum sanctum* S 165 b (*Text*); kālamālaḥ kṛṣṇamallikā 'barbarikā' iti loke S 166 a. [*Cf.* Sk. kālamallikā.]

kālavelī: *a black variety of sārivā*; kṛṣṇasārivā chilahentāpatrasadṛśacchadā candanagandhā 'kālavelī' iti loke S 164 a.

kāliyā: *the potherb Ocimum sanctum*; kālaśākaṁ 'kāliyā' iti khyātaṁ kālākhyam iti kālaśākaṁ evocyate punaḥ; anye tu 'kālāyam' iti paṭhanti C 159 a.

kāleyakāṣṭaka: kāleyaṁ = kāleyakāṣṭakam iti khyātam C 564 a.

kāśmarya: kāśmarye iti Gambhārībhave C 476a.

kāṭhakuṣṭaka: *woodpecker, Picus bengalensis*; śatapatro dāvāghāṭaḥ 'kāṣṭhakuṭṭaka' iti loke S 220 a. [*Cf.* Sk. kāṣṭhakuṭṭaḥ]

kiramāla: kṛtamālaḥ 'kiramālaḥ' S 508 a. *Cassia fistula; spotted antelope.*

kiramālaka: narendraḥ (*Cathartocarpus Fistula*) 'kiramālakaḥ' S 470 b. śampākaḥ 'kiramālakaḥ' S 508 a, 543 a; pragrahaḥ (*Cassia fistuala*) 'kiramālakaḥ' S 580 b.

kilāṭa: (f. -ī) *inspissated milk*; kūrcikībhūtakṣīrasya ghanabhāgaḥ 'kilāṭaḥ' yaṁ lokāḥ kṣīrāṁśum ity āhuḥ, sūdās ti 'kilāṭī' iti S 203 b.

kīla: muṣṭiḥ 'kīla' itī khyātā C 407 b.

kuiā: *Nymphaea esculenta*; kumudam 'kuiā' iti loke S 57 a.

kukhaka: *Baleria Caeruli*; ārtagalaḥ kakubhakaḥ sugandhimūlaḥ 'kauhā' (*v.l.* kavahā) iti nāmnā Pūrvadeśe prasiddhaḥ; anye tu ārtagalaḥ 'kukhaka' ity āhuḥ S 435 a.

kuṭannaṭa: kuṭannaṭam = kaivartamustakam; anye tagaram āhuḥ C 725 b.

kuḍiśa: *a kind of fish, commonly kūrchi, Cyprinus Curchius*; kuliśaḥ 'kuḍiśa' iti loke S 224 b.

kuṇi: kuṇiḥ = kubjitakaraḥ (*v.l.* naṣṭakaraḥ) C 690 a.

kuṇḍaka: kaṇaḥ 'kuṇḍaka' iti khyātaḥ C 347 a.

kunduru: kunduruḥ svanāmakhyātaḥ C 602 a.

kupyaka : śukanāsā carmakāravaṭaḥ 'kupyaka' iti Kānyakubje, carmakārajambūpalāsikā iti Mālavīyā vadanti (*v.l.* kapyuka iti Kānyakubje carmakārajambūprabhāsikā iti Mālavīyā vadanti) S 406 a.

kumbhīka : kumbhī 'kumbhīka' iti khyātā kiṁ vā haṭhaḥ C 285 a.

kurañja : *a kind of curlew*; *osprey*; krauñcaḥ 'kurañja' (koñci) iti loke S 31 b. (*Cf.* koñca *below*).

kurala : *a sea-eagle*: *an osprey*; utkrośaḥ 'kurala' iti khyātah C 156 b. kuraraś cillyākāro nādotthāpitamatsyo hastamatsyagrāhī 'kurala' iti loke prasiddhaḥ' anye 'pājī' ity āhuḥ S 221 b.

kurica : *a kind of pheasant*; jīvajīvakah pakṣiviśeṣaḥ 'kurica' iti loke S 561 a.

kurala : kuraraś cirillākāro nādotthāpitamatsyaḥ 'kurala' iti loke S 31 b.

kulmāṣa : kulmāṣā iti ardhasvinnayavādi (piṣṭa) mayā bhakṣyāḥ C 713 b.

kuhaṇikā : *elbow*; kūrparam 'kuhaṇikā' S 151 a. [*Cf.* Sk. kubh-raḥ *a hump-backed bull*; <*kubh-a-nikā *or* *kuph-a-ṇikā ; *Cf.* Sk. kaphaniḥ, kaphoṇiḥ.]

kuhuṇī : *elbow*; kūrparaḥ kaphoṇiḥ 'kuhuṇī' iti loke S 373 a. (*v.s.v.* kuhaṇikā.)

kuheḍī : *mist*; nīhāraḥ 'kuheḍī' yena pratyūṣakāle dinaṁ dhūmāvṛtam iva bhavati. [*Cf.* kuheḍikā, kuhelikā.] S 138 b.

kūra : *boiled rice*: atra lohitaśālyādayas teṣu teṣu deśeṣu tais tair nāmabhih prasiddhāh ; ekam eva hi dravyaṁ nānādeśeṣu nānāśabdair abhidhīyate yathā : bahavo 'nnaṁ bhaktam āhuh ; Dākṣiṇātyās tu 'kūram' iti S 214 b; S 215 a.

kṛṣṇajhiṇṭī : *a kind of Baleria*; kṛṣṇasairīyakaḥ 'kṛṣṇajhiṇṭī' C 612 a. [*Cf.* kṛṣṇasaireyakah.]

kṛṣṇaśrīphalikā : kākādanī kṛṣṇaśrīphalikā S 583 b.

kṛṣṇasārivā : kālānusārī 'kṛṣṇasārivā'. *a black variety of Sārivā* S 480 b.

kendu : *a kind of ebony*; tindukaḥ 'kenduh' iti prasiddhaḥ (*Diospypros embryopteris*) C 34 a.

koñca : *osprey, sea-eagle*; krauñcaḥ pakṣī 'koñca' iti khyātaḥ C 123 a. krauñcaḥ 'koñca' iti khyātaḥ C 156 b.

koḍā : *the lapwing or a small white crane, commonly called paddy-bird*; koyaṣṭiḥ 'koḍā' iti khyātaḥ C 157 a.

koyaṅga : *lapwing, small crane, paddy-bird*; koyaṣṭiḥ koyaṅgakā dīrghajihvā 'koyaṅga' iti loke S 220 b.

koraka : naiṣadhaḥ 'koraka' ity ākhyāyate, sa ca dhānyaviśeṣaḥ S 104 a.

kolhasuā : kuṭhiñjaraḥ kurahañjanakaḥ 'kolhasuā' iti loke S 234 a.

kośamba : *Mangifera sylvatica* : kośāmraḥ 'kośamba' iti prasiddhaḥ S 206 b.

kausimba : *Mangifera sylvatica*; kośāmram 'kausimba' iti prasiddham S 226 b.

kauhalikā : *a kind of spirituous liquor made of barley* ; yavasaktukṛtaḥ kohalaḥ 'kauhalikā' iti loke ; anye punar bhaktasurām āhuḥ yāṁ eva Pauṇḍrāḥ 'kāñcanālī' ity āhuḥ S 210 b. (*Cf.* Sk. kohalaḥ, kohalī kūṣmāṇḍa-surā.)

kauhā : *v.s.v.* kukhaka above. S 435 a.

khagālī : *a kind of reed or grass* ; itkaṭaḥ mahatī khagālī S 435 b.

khaggalī : *Cf.* above ; itkaṭaḥ 'khaggalī' S 104 a.

khaggālikā : ikṣuvālikā 'khaggālikā' C 391 b. (*Cf.* Sk. ikṣuvāṭikā,- -vāṭī *Saccharum officinalis.*)

khajita : *churned, agitated* ; khajitam iti mathitam C 632 b (*both in Text and commentary*).

khaḍa : *buttermilk boiled with acid vegetables and spices* ; khaḍā yūṣaviśeṣāḥ S 745 a.

khaṇḍadrava : *inspissated juice of the sugar cane* ; matsyaṇḍikā dravakhaṇḍaḥ 'khaṇḍadrava' iti loke S 209 b.

khapariyā : *blue vitriol* ; tutthakam karparikātuttham 'khapariyā' iti loke, anye mayūragrīvam āhuḥ S 167 b. [*Cf.* Sk. karparikā *k. of collyrium.*]

kharaji : khañjanapratimā iti mardanādinā āmāgāradhūmānuracitam upastaraṇaṁ khañjanam ucyate yaṁ 'kharajiṁ' ity āhur mṛdaṅgavādakāḥ ; anye khañjarīṭam āhuḥ, tadvarṇaḥ śuklakṛṣṇa ity arthaḥ S 140 a.

kharavārū : karkārur vāḍavam trapuṣaṁ 'kharavārū' iti loke S 230 b. *Beninkasa Cerifera* (*a species of gourd*).

khallī : *shooting pain of the extremities* ; khallī hastapādāvamoṭanam C 89 a. (*Cf.* Sk. khalliḥ, kallī.]

khuḍḍāka : *small, minor* ; khuḍḍākaśabdo' lpavacanaḥ, yathā : khuḍḍikā garbhāvakrāntiḥ alpety arthaḥ. C 61 b. [Sk. kṣudraka]

khurkhuraka : jharjharakaḥ 'khurkhuraka' iti khyātaḥ C 582 a. [*Cf.* Sk. jharjharikā *been cake.*]

khulaka : *ankle joint* ; khulakaḥ jaṅghāpādayoḥ saṁdhiḥ S 472 b. (*v.l.* khulukaḥ). [*Cf.* Sk. khuḍakaḥ *of verse* 26 (472 a) *and* khulakaḥ.]

kherasā : *a species of gourd, Beninkasa Cerifera* ; karkāruḥ vāḍavam trapusaṁ 'kherasā' iti loke S 508 a.

gaḍḍara-roman : *wool* ; ūrṇā 'gaḍḍararomāṇi' C 94 a.

gaṇḍaka : *the groin, pubic and iliac regions*; *the thigh joint*; vaṅkṣaṇa ūrumūlāśrayaḥ 'gaṇḍaka' iti loke S 303 b.

gaṇḍadūrvā : indravallī matsāṇḍakaḥ (*v.l.* matsyāṇḍakaḥ) 'gaṇḍadūrvā' iti loke S 661 b. *the plant Cucumis Colocynthis.*

gadulikā : *kind of bat or flying fox* ; valgulī 'gadulikā' iti loke S 221 a.

gandhamuṇḍa : kapītanaḥ 'gandhamuṇḍa' iti khyātaḥ C 422 a ; 521 a. aśvakarṇaḥ Pūrvadeśe 'gandhamuṇḍo' śvatthasadṛśaḥ (*Vatica Robusta*) S 443 a ; aśvakarṇaḥ Pūrvadeśe 'gandhamuṇḍa' iti khyāto' śvatthasadṛśaḥ S 481 b.

ajakarṇo (*Terminalia Alata Tomentosa*) mahāsarjaḥ (*Terminalia Tomentosa*) 'gandhamuṇḍa' ity eke S 443 b, 500 a.

garala : *a species of grass*; gavedhukas tṛṇaviśeṣaḥ 'galagodhūma' iti loke, deśāntare tu 'garala' iti loke S 216 b.

galagodhūma : *v.s.v.* garala *above* [*Cf.* Sk galaḥ *oozing resin of the plant Shorea robusta*; galā *a plant akin to Mimosa pudica.*]

gāṅgeṭīphala : *refined sugar*; guḍaśarkarā 'gāṅgeṭīphalam' S 722 b.

girgarāṭī : *a kind of heron*; śarārīmukhaḥ khadiravarṇo 'girgarāṭī' iti loke S 223 b. [*Cf.* Sk. śarāṭiḥ,-ṭikā ; śarāḍiḥ, śarāṭiḥ ; śarāriḥ, -rī ; śarāliḥ, -likā]

gilī : *squirrel*; vṛkṣaśāyikā vṛkṣamarkaṭikā 'gilī' iti loke S 221 b.

gilloṭhī : (*v.l.* gilloṭa-, givvoṭa-) *a kind of grass*, ginger or its root ; gilodyaḥ kālaṅkaṭakaḥ śitodyakandaḥ prāvṛḍjātaḥ śaṇapatrikākāravallīyukto 'gilloṭhī' iti loke ; 'aṅgaloḍya' ity anye paṭhanti S 186 b.

giviḍikā : (*v.l.* kiriḍikā) *back or nape of the neck*; avaṭuḥ kṛkāṭikā 'giviḍikā' iti loke S 151 b. [*Cf.* kṛkaṭam *joint of the neck*: kṛkaṭī *id.*, -ṭakam *the neck*; -ṭikā *joint of the neck.*]

guḍaguḍāśabda : āṭopaḥ = guḍaguḍāśabdaḥ C 503 a.

gūrārocanikā : kampillakam 'gūḍārocaṇikā' C 21 a [*Cf.* Sk. guṇḍārocanikā; kāmpilya- *a plant.*]

gugiloṭa : (*v.l.* gulāhaṅka) gilodyaḥ kandaḥ prāvṛḍjātaḥ śaṇapatrākāro vallīyuktaś Carmaṇvatīnadībhavaḥ śvetavartulapāṣāṇasadṛśaḥ 'gugiloṭa' iti loke S 453 a.

guggulaka : tatra jātukandaḥ 'guggulaka' Uttarāpathe prasiddhaḥ S 162 a.

guggulī : śrīveṣṭakaḥ (*the resin of Pinus Longifolia*) saralaraso navaśrīveṣṭakaḥ saralaropaḥ 'guggulī' iti loke S 166 b.

guñjā : śārṅgeṣṭā (*v.l.* śārṅgaṣṭā) kākajaṅghā 'vikasavanī' iti loke, kākamācīty anye ; anye to śārṅgaṣṭā kākatiktā gauravartulāvaguṇṭhitaphalā 'cirapoṭikā' iti prasiddhā, 'bhurudakā' iti Pūrvadeśe, kākādanīty apare, sā ca guñjeti prasiddhā S 164 b.

guḍataja : tvak varāṅgam (*green cinnamon, cassia bark*) 'guḍataja' iti loke. S 166 b. (*Cf.* Sk. guḍatvacam *mace*; guḍatvac **n.** *aromatic bark of Laurus Cassia.*]

guḍaśarkarā : viśvadevā gaṅgerukī (*the plant Uraria lagopodioides*) prasiddhā, 'guḍaśarkarā' ('gulaśakarī') iti Pūrvadeśe, anye sitakusumām balām āhuḥ S 164 a.

gudāka : *Andropogon Schoenanthus*; bhūstṛṇaḥ 'gudākanāmadheyo' droṇapuṣpīsadṛśaḥ S 165 b—166 a.

gulaḍuṇi : *Odina wodier*; jiṅginī guḍamajjanikā 'gulaḍuṇi' iti loke, Pūrvadeśe svanāmaprasiddhā S 165 b. [*Cf.* jiṅginī, khiṅginī.]

gulumca : *Saccharum Sara* ; gundrā 'gulumca' C 33 a.

gūthakarañja : śārṅgeṣṭā kākatiktā 'bhumbhuraṭā' (*v.l.* 'āgudhūpa') iti loke ; 'gūthakarañja' ity apare S 433 a. [*Cf.* śārṅgaṣṭhā *a tree resembling the* 'Sārṅgoṣṭha *Pongamia Glabra.*]

gṛhacaṭaka : *a crab* ; kulīraḥ karkaṭakaḥ, 'gṛhacaṭaka' (*a house sparrow*?) ity anye ; kulīro matsyaviśeṣa ity apare S 498 a.

gojī : gojī gojihvā (*Phlomis or Premna esculenta* etc.); anye śākhoṭam (*Trophis Aspera*) āhuḥ S 41 a ; gojī gojihvā S 443 b : gojī gojihvikā, śākhoṭaka ity anye S 470 b ; gojī dārvīpatrikā, śākhoṭaka ity anye S 473 b ; gojī gojihvā S 477 a, 580 b, 583 b.

gojībhī : gohihvā dārvipatrikā karkaśā karkaśā dīrghapatrā 'gojibhī' iti loke S 233 a.

goḍumbā : hastidantī bṛhatphalā 'goḍumbā' iyam eva nāgadantī bhaṇyate ity eke C 20 b. vanatrapuṣī bṛhatphalā C 284 a.

godara : gundrā pādarakabhedo 'godara' iti loke S 165 a.

gona : gokarṇo gosadṛśakarṇaḥ 'gona' iti prasiddhaḥ S 233 a. [*Cf.* Sk. goṇaḥ *an ox.*]

gonāḍīca : nālikā gonāḍīcaḥ C 159 b. [*Cf.* Sk. gonāḍīkaḥ cañcuśākaḥ.]

gosāp : godhā 'gosāp' iti bhāṣā S 495 a. [*Cf.* Sk. gosarpaḥ godhikā *Lacerta Godica, a kind of alligator.*]

grāmakolikā : gopaghoṇṭākarkoṭī. badarabheda ity anye ; 'grāmakolikā' iti prasiddhā, pūgabhedam apare S 164 b.

grāmacaṭaka : gṛhakuliṅgaḥ puṇḍracaṭakaḥ 'grāmacaṭaka' iti loke S 220 b.

ghaḍiyāla : kumbhīro 'pi nānābhedo ghaḍiyālagodhādibhedena S 224 a. nakro matsyabhedaḥ 'ghaḍiyāla' iti loke S 498 a.

ghargharа : vartīraḥ 'ghargharа' iti loke S 95 a.

ghargharā : vartīraḥ kapiñjalānūkaḥ kapiñjalād alpo vartikātaḥ kiṁcin mahān vartikāsadṛśa eva 'ghargharā' iti loke ; *a sort of qual or partridge.* S. 220 a.

gharmūṭī : prabhṛtigrahaṇena jhaṇṭī-gharmūṭī-jonnālikādayaḥ S 216 b.

ghurghuraka : ghurghurakam iti ghurghurakam ityākāraṁ śabdaṁ, sa kaphāvaruddhena śvāsena bhavati C 309 b.
ghurghurakam iti kaṇṭhe ghurghurakaśabdam C 535 b.

ghuluñca : gavedhuko guluñcaḥ *Coix barbata* C 26 b, 154 b.

ghusuṇḍī : kośātakī ghoṣakaḥ 'ghusuṇḍī' iti loke S 162 a.

gheñculikā : *Arum orixensa* ; krauñcādanam 'gheñculikā' iti khyātaḥ C 502 a.

ghevara : (*v.l.* gheura) marditāḥ samitāḥ kṣīranālikerasitādibhiḥ avagāhya
ghṛte pakvo ghṛtapūro'yam uttamaḥ
'ghevara (gheuara)' iti loke S 242 b.
ghṛtapūraḥ 'ghevara' iti prasiddhaḥ S 658 b.

ghoḍākaṅka : gonardo 'ghoḍākaṅka' iti khyātaḥ ; the bird *Ardea sibirica* C 156 b.

caṭanī : veśavāraḥ 'caṭanī' iti bhāṣā ; a *particular condiment or kind of seasoning* S 514 a. (*Cf. v.l.* vesavāraḥ.]

caḍuhī : *saffron* ; keśaraṁ bījapūrāntargataṁ tantujālaṁ 'caḍuhī iti loke S 227 a.

caturaṅga : *a species of antelope or deer* ; kuraṅgaḥ 'caturaṅga' iti loke S 96 a ; kuraṅgaś caturagatiḥ 'caturaṅga' iti loke S 219 b.

carmaloha : '*parchment tree*'; carmavṛkṣaḥ 'carmaloha' iti prasiddho lakucadrumākāro mahāvṛkṣaḥ S 453 a.

cavikā : *Piper Chaba* ; nākulī 'cavikā' C 423 a. [*Cf.* Sk. cavanam, caviḥ, cavikam, cavī, cavyam.]

cāṅgerī : *wood sorrel* ; cukrikā 'cāṅgerī' C 520 b. [*Cf.* Sk. cukram, cukraḥ *sorrel* ; cukrā *Oxalis pusilla*.]

cāpaḍikā : *kind of sweet cake fried with ghee or oil* ; pūpalikā 'cāpaḍikā' iti khyātā C 168 b.

cāraṭī : cāraṭī-=kumbhī ; 'brahmayaṣṭikā' ity anye C 472 b.

cārulī : priyālamajjā 'cārulī' iti loke prasiddhaḥ S 229 b.

cālanikā : *fistula in anus* ; śataponakaḥ śūkadoṣaparipaṭhito vyādhiḥ 'cālanikā' iti Jejjaṭaḥ ; tan necchati Gayī lokaśāstrayoś cālanikāyāṁ śataponakaśabdasya aprasiddhatvāt S 281 a.

cittala : pṛṣato binducitritaḥ 'cittala' iti loke S 219 b pṛṣataḥ citrabinduḥ 'cittala' iti loke S 561 a.

citraka : dvīpi vyāghrabhedaḥ citravyāghraḥ 'citraka' iti loke ; *a leopard* S 221 b ; dvīpī citravyāghraḥ 'citraka' (citā) iti loke S 31 b.

cipiṭaka : flattened rice ; guruśabdena svabhāvagurulaṭṭuka-cipiṭakāder yathoktamātrayāpi bhojananiṣedhaḥ C 95 b. pṛthukāḥ 'cipiṭāḥ, yāvā iti yavacipiṭāḥ C 169 a.

cipiṭa-picciṭaka : cipiṭa-picciṭaketyādi ete kīṭaviśeṣāḥ deśāntare lokato jñeyāḥ S 567 b. [cipiṭakaḥ *a kind of venomous insect* ; picciṭa (ka)ḥ *a species of venomous insect*.]

cippiṭa : "pṛthukāḥ 'cippiṭā' iti lokaprasiddhāḥ C 38 a.

cippaūrahitam—viśadam S 490 a.

ciṁcoḍakā : kaśerukaśabdena 'ciṁcoḍakā' rājakaśeruś ca gṛhyate C 160 a.

ciyāra : cillaṭaḥ 'ciyāraḥ' an animal of the bhūmiśaya class C 156 a.

cirakārī : ciram = vikāraṁ karotīti = cirakārī C 592b.

cirapoṭikā : *v.s.v.* guñjā ; śārṅgaṣṭā S 164 b ; śārṅga (°ṅge)-ṣṭā S 168 b ; vāyasī kākatiktā 'cirapoṭikā' iti loke 'kākamācī' ity anye S 445 b.

cirahiṇṭikā : guñjā 'cirahiṇṭikā' iti loke S 273 b ;

cirihili : *Pongamia Glabra* ; cirabilvo vṛddhakarañjaḥ 'cirihili' iti loke S 161 a.

cirpita : *pressed flat, squeezed* ; piccitam cippaṭībhūtam 'cirpitam' iti loke S 205 b.

cilicima : *a kind of fish* ; cilicimo mahāśakalī matsyo rohitabhedaḥ C 131 a. Cilicimamatsyaḥ śakalī lohitākṣaḥ sarvato lohitarājiḥ prāyo bhūmau carati sthalamīnasaṁjñakaḥ S 95 a.
[*Cf.* Sk. cilicūmaḥ, cilicīmiḥ, cilacīminikā cilicīmanakaḥ.]

cilla : *a kind of bird of prey* ; cilliḥ 'cilla' iti loke S 31 b ;cīralliḥ 'cilla' iti loke S 666 a. [*Cf.* Sk. cirillaḥ, cīralliḥ cirilli.]

cillī : kṣetravāstukaḥ S 187 a, 238 a; Gauḍavāstukaḥ C 159 b. [*Cf.* cillikā, cilliḥ.]

cihvariyāka : *Achyranths Aspera* ; kṣavakaḥ kṣavathukāraḥ phaṇijjhakākāraḥ 'cihvariyāka' iti Pāriyātre prasiddhaḥ S 166 a.

cīcu : *a kind of vegetable* ; cuccūḥ 'cīcur' iti loke S 401 a.

cītala : *spotted, variegated, piebald, whence spotted deer* ; pṛṣataḥ citramṛgaḥ 'cītala' iti loke S 684 a.

cīnayugapaṭṭa : *a sort of cloth (silk ?)* ; cīnapaṭṭam Cīnadeśe evotpadyate, taddeśajanās tu 'cīnayugapaṭṭam' iti vadanti. sa ca patrorṇasyaiva bhedaḥ. anye netram āhuh S 86 b.

cukra : *sorrel* ; *vinegar* ; śuktaṁ saṁdhānakaviśeṣaḥ 'cukram' iti loke S 186 b.

cucu : *a kind of vegetable* ; cuccūr nāḍikākārapatraḥ 'cucu' iti loke S 232 a cuccuḥ 'cucur' iti loke S 431 b.

culāi : *Embelia Ribas* ; *Amaranths polygonoides* ; taṇḍulīyakah 'culāi' S 232 b.

cūcca : cūcūḥ 'cūcca' iti loke S 238 a.

corasnāyu : *Leea hirta* ; madhurasā mūrvā (*Sansevieria Roxburghiana*) S 469 a.

corahulī : caṇḍā 'corahulī' C 34 a.

chiṅkaṇī : *sneezing* kṣavaś chikkākāraḥ 'chiṅkaṇī' iti loke S 230 b.

chiṅkinī : kṣavakaḥ kṣavathukāraḥ phaṇijjhakākārah 'cihvariyāka' iti Pāriyātre prasiddhaḥ, 'chiṅkinī' iti loke S 166 a.

jagala : *a kind of spirituous liquor, white wine (?)* ; medakaḥ śvetasurā 'jagalākhyā' C 134 b ; medakaḥ jagalaḥ C 155 b.

jaṭulā : *freckle, mark, mole* ; piplavaḥ 'jaṭulā' iti prasiddhaḥ C 108 a. [*Cf.* Sk. pipluḥ ; *also* jaḍulaḥ, jaṭulaḥ *freckle*.]

jadula : *lac jewel* ; *a mole* ; jatumaṇiḥ 'jadula' iti lokāśrayā tatsaṁjñā S 323 a.

jambīra : *citron tree* ; dantaśaṭhaḥ jambīraḥ, kecid amloṭam vadanti C 161 b.

jarakha : *a wolf, a hyena* ; tarakṣuḥ 'jarakha' iti loke S 31 b ; tarakṣur mṛgaśatrur vyāghraviśeṣaḥ 'jarakha' iti loke S 221 b ; S 584 b.

jalagodhūma : *rice or wheat gruel* ; pulakodakaṁ gavedhukodam ; gavedhukas tṛṇaviśeṣaḥ S 109 b.

jāṅgha : *the thigh or shank* ; urū 'jāṅgha' iti loke S 363 b ; 489 b. [*Cf.* Sk. jaṅghā *the shank, from the ankle to the knee, the thigh.*]

jāṇḍaka : jāṇḍakaḥ Marudeśodbhavaḥ prāṇī pṛṣṭhamātre saṁkocam upayāti C 538 a.

jātivanī : *nutmeg or mace* ; jātīkośo jātīpatrikā 'jātivanī' iti loke S 229 b. [*jātīparṇikā]

jentāka : *dry hot broth* ; jentākādayaś ca anvayanirapekṣā eva C 90 a.

joṅgaka : *aloe wood* ; joṅgakam agaru C 388 a-b. [*Cf.* Sk. joṅgaṁ, joṅgalaḥ.]

jonāra : *N. of a plant* ; jūrṇāhvo 'jonāra' iti khyātaḥ C 154 b.

jonnalikā : prabhṛtigrahaṇena jhaṇṭī-gharmūṭī-jonnalikādayaḥ S 216 b. [*Cf.* Sk. jonnālā, yavanālaḥ.]

jyeṣṭhabalākā : śvetavāralaḥ śuklapakṣaḥ prasevakagalaḥ 'jyeṣṭhabalākā' iti loke ; S 223 b. [*Cf.* Sk. 'jyeṣṭhabalā *Sida rhomboidea.*]

jyeṣṭhī : *a small house lizard* : bhittimarsyaśabdena ca Pāścātye 'jyeṣṭhī' ucyate C 343 b.

jhajharuṣa : śārṅga(e)ṣṭā kākatiktā gauravartulāvaguṇṭhitaphalā 'cirapoṭikā' iti prasiddhā, 'jhajharuṣa' iti Pūrvadeśe S 168 b.

jhaṇṭī : *a kind of grass* : prabhṛtigrahaṇena jhaṇṭī-gharmūṭī-jonnālikādayaḥ S 216 b. [*Cf.* Sk. jhaṇḍī, jhaṇḍūkaḥ, jhaṇḍū *Gomphrena globosa.*]

jhiṇṭī : *Barleria cristata* ; saireyaḥ 'jhiṇṭī' C 89 b. [*Cf.* Sk. jhiṇṭiḥ, jhiṇṭikā.] *Barleria Prionitis and Cristata* ; sahacaraḥ jhiṇṭī C 612 a.

jhinajhinikā : (*v.l.* siṇasiṇikā) pariharṣaḥ 'jhinajhinikā' (*v.l.* siṇasiṇikā) C 218 a.

ṭaṅkacuccū : *Chenopodium Album* ; vāstūkaṣ ṭaṅkuvāstūkaḥ 'ṭaṅkacuccū, iti loke S 233 a.

ṭimbaruyaṇi : *Diaspyros embryopteris* ; tindukī tindukavṛkṣaḥ 'ṭimbaruyaṇi' iti loke S 168 a.

ḍāhuka : atyūhaḥ ḍāhukaḥ ; 'dātyūha' iti vā pāṭhaḥ, sa ca prasiddhaḥ C 157 a. [*Cf.* Sk. atyūhā *the plant Jasminum Villosum or Nyctanthus Tristrio.*]

ḍoḍikā : jīvantī 'ḍoḍikā'; N. *of a medicinal and edible plant, Cocculus cordifolius, Prosopis Spicigera or Mimosa Suma* S 95 a. [ḍoḍī kṣupaḍoḍamuṣṭiḥ *Hoya viridiflora.*]

jīvantī 'ḍoḍikā' iti loke S 167 a ; jīvantī jīvā taṇḍulīyasadṛśī ity anye, 'ḍoḍikā' ity apare S 232 b ; jīvantī ḍoḍikā S 431 b.

ḍoḍī : jīvantī 'ḍoḍī' S 187 a ; 245b ; jīvantī 'ḍoḍī' iti loke S 238 a.

taraccha : tarakṣuḥ vyāghrabhedaḥ 'taraccha' iti khyātaḥ *a hyena* C 156 a.

talāva : *artificial pond* ; puruṣavyāpārakṛtas taḍāgaḥ 'talāva' iti loke S 196 b.

tavarāja : *sugar* ; śarkarā sitopalā 'tavarāja' iti. [*Cf.* tavakṣīraḥ *manna of bamboo.*]

tarkārī : tarkārī araṇikā (*Premna Spinosa*) S 666 a. [*Cf.* Sk. tarkāriḥ.]

tāmalakī : tāmalakī 'bhūmyāmalakī' iti khyātā C 419 b.

tālamakhānā : *molasses, juice of sugar cane*; *the cane Saccharum Spontaneum* ikṣurakaḥ kokilākṣaḥ ' tālamakhānā ' iti loke S 498 b.

tiṇḍurikā : bimbī (*Momordica Monadelpha*) oṣṭhopamaphalā ' tiṇḍurikā ' iti prasiddhā S 165 a.

tintiḍī : *sour sauce* (*made of tamarind fruit*); amlikā 'tintiḍī ' C 161 b. [*Cf.* Sk. tintiḍikā, tintiḍīkaḥ , tintilikā, tintilīkaḥ *tamarind tree.*]

tirasī : (*v. l.* tivasa) trapusaṁ ' tirasī ' iti loke S 186 b. [*Cf.* Sk. trapusī *Coloquintida* (and *other cucumbers*) and *its fruit.*]

tilavāsī : a *kind of grain* ; mahiṣaśuko Madhyadeśe ' tilavāsī ' iti prasiddhaḥ S 214 b.

tulajīdhānya : *wild rice*; nīvāraḥ prasādi(-ti-)kādhānyamadhye raktaśūko bhavati ' tulajīdhānyam ' iti loke prasiddhaḥ S 94 b.

tulasī : *basil* ; surase dve śvetakṛṣṇakusume, te ca loke ' tulasī ' iti prasiddhe S 165 b; surasā ' tulasī ' iti loke S 171 a ; surasā surabhiparṇī ' tulasī ' iti loke S 230 b.

tuvaraka : *the pulse Cajanus indicus*; tuvarakaḥ Paścimasamudrabhūmiṣu prasiddha eva S 443 a.

tuvaramṛttikā : *a variety of fragrant earth found in Saurāṣṭra* ; saurāṣṭrī ' tuvaramṛttikā ' S 477 a.

tuvararasa : *green or black sulphate of iron* ; kāsīsadvayaṁ kāsīsaṁ bhasmasadṛśaṁ kiṁcidamlalavaṇarasaṁ, dvitīyaṁ puṣpakāsīsam īṣatpītaṁ ' tuvararasaṁ ' tadbheda eva S 167 b.

tuvarī : *the pulse Cajanus indicus* ; āḍhakī ' tuvarī ' S 95 a, 103 b, 217 a ; āḍhakī tuvarī vātalā iti chedaḥ C 155 b.saurāṣṭrikā ' tuvarī ' mṛttikā C 638 a-b [*v.s.v.* tuvaramṛttikā.]

tūrī : *a kind of fragrant earth* ; surāṣṭrajā tumburumṛt ' tūrī ' iti loke ; apare sāmānyena kṛṣṇamṛttikām āhuḥ S 161 b. [*v.s.v.* tuvaramṛttikā]

tevasā : *a kind of cucumber* ; trapusaṁ sudhāvāsaḥ ' tevasā ' iti loke S 230 b.

tailavartikā : vapāvahanam medaḥsthānam ' tailavartikā ' iti khyātam C 338 a.

toraï : kośātakī (*Trichosanthes dioeca, Luffa pentandra, Luffa acutangula*) ghoṣakaḥ (Luffa *foetida or similar plant*) ' torai ' iti loke S 233 b.

trapusī : *a kind of cucumber* ; trapusaḥ sudhāvāsaḥ ' trapusī ' iti loke S 508 a.

trasara : *silk* ; kauśeyaṁ kośakārakṛmilālodbhūtaṁ yat ' trasara' iti loke S 86 b. [*Cf.* Sk. trasaraḥ *shuttle* ; tasaraḥ *cloth in the loom* ; tasarikā *weaving* ; *the roots* √tas-, √taṁs-.]

triṣuḍī : *cucumber* ; trapusaṁ karkaṭīphalaṁ ' triṣuḍī ' iti loke S 206 a.

thukathukī : hṛllāsaḥ (*palpitation*) thūkaraṇam (*spitting*) ' thukathukī ' iti loke S 521 b.

dāruparṇī : asanaparṇī = aparājitā ; ' dāruparṇī ' ity apare C 602 a.

dudhauḍa : *Sanseviera Roxburghiana* ; mūrvā ' dudhauḍaḥ '; ' caurasnāyuka ' ity eke S 167 a.

dūdhaü : mūrvā dhanurguṇopayogyā 'dūdhaü' iti loke S 164 b.

devaḍatāka : jālamālanī = devaḍatākaḥ C 580 b.

devali : *a kind of pumpkin* ; devadālī svanāmakhyātā 'devalī' iti loke S 171 a.

dhakadhakikā : *heat, pain, inflammation* ; davathuḥ 'dhakadhakikā' iti loke C 115 a.

dhakdhak : davathuḥ 'dhakdhak' iti loke kathyate C 210.

dhammaṇa : dhanvanaḥ (*Grewia Elastica*, a *kind of animal*) 'dhammaṇa' iti prasiddhaḥ S 66 a. (*Cf.* Sk. dhanvagaḥ]

dhāmaṇa : dhanvanaṁ dhanurvṛkṣaphalam 'dhāmaṇa' iti loke S 227 b.

dhāmana : dhanvano dhanurvṛkṣaḥ yasya 'dhāmana' iti loke prasiddhiḥ S 546 a.

dhiñculikā : krauñcādanam 'dhiñculikā' C 160 a.

dhītikā : śuṣkagomayādikṛtaḥ agnyāśrayaviśeṣaḥ C 92 a.

dhūmyāṭa : *fork-tailed shrike* ; bhṛṅgarājas tu kūjatīti bhṛṅgarājo bhramarako dhūmyāṭasadṛśaḥ pakṣirāja iti like S 561 a.

dhvaṁsi : dhvaṁsīṁ trasareṇukaṁ vadanti ; anye tu dhvaṁsīṁ dhūliṁ āhuh C 675 b.

nahāru : anāyur dhanurjyābandhanārtham dravyam S 765 a.

nāpiṇī : suvahā gandhanākulī 'nāpinī' iti loke. godhāpadī ity apare. kandālīty anye S 469 a.

nālī : *hollow or tubular organ* ; nāḍikā 'nālī' iti loke S 233 b.

nāsāvoṭikā : *a pair of nippers for removing hair from the nostrils* ; saṁdaṁśo nāsālomāpaho yantrabhedaḥ 'nāsāvoṭikā (nāsāchoṭikā), iti loke S 405 b.

niśotra : trivṛt raktamūlā trivṛt 'niśotra' iti loke S 167 a ; 170 b. [*Cf.* Sk. niśotrā *Ipomoea Turpenthum*.]

niśosra : trivṛt 'niśosra' iti loke S 190

nīlajhiṇṭī : odanapākī (*Barleria Caerulia*) 'nīlajhiṇṭī' C 284 a.

nīlabheṇḍī : odanapākī C 422 a.

nīlāñjanikā : *indigo plant* ; nīlinī nīlavuhnā 'nīlāñjanikā' iti loke C 725 b.

nīlāṇḍa : *a species of deer* ; ṛṣyaḥ nīlāṇḍo hariṇaḥ C 156 b.

nyaṅguṇa : *deer, antelope* ; nyaṅkuḥ 'nyaṅguṇa' iti loke S 233 a.

pakṣirāja : *a kind of bird, shrike, eagle* ; bhṛṅgarājo bhramarako dhūmyāṭasadṛśaḥ 'pakṣirāja' iti loke S 220 b ; 561 a.

pattūra : *Achyranthes Triandra* ; pattūraḥ śāliñcaḥ C 159 b. matsyākṣako brāhmī 'pattūra' ity eke, anye raktapuṣpam ānūpam 'mātsyakam' iti loke prasiddham āhuḥ S 395 b.

patraka : *leaf of Laurus Cassia* ; tamālaṁ tamālapatram 'patrakam' iti loke S 171 a.

parivāla : *entropium* ; asya pakṣmakopasya ' upapakṣmamālā ' ity anuktā dvitīyā saṁjñā, loke ' parivāla ' iti vadanti S 601 a.

parkaṭī : *Ficus Infectoria* ; plakṣaḥ ' parkaṭī ' S 54 a.

parṇa : *betel leaf* ; tāmbūlapatraṁ nāgavallīpatram ' parṇam ' iti loke S 234 a.

parvatanitamba : mahānimbaphalam iti mahānimbo drekkā ' parvatanimba ' iti loke S 166 a.

palāśakhapura : *decoction made from the blossom of Butea Frondosa* ; pālāśaṁ śonitaṁ kiṁśukarasaḥ, anye ' palāśakhapuram ' āhuḥ S 613 a.

pāji : śaśaghātī cillyākāro mahācaraṇanakhaḥ prahāreṇa śaśakāharaṇaśīlaḥ ' śaśāgnir ' iti loke prasiddhaḥ, anye ' pājī' ity āhuḥ S 221 b.

pāñji : śaśaghnī ' pāñjir ' iti khyātā C 156 a. [*v.s.v.* pāji]

pāṭhā : ekaiṣikā aviddhakaraṇī ' pāṭhā ' iti loke. trivṛd iti Jejjaṭaḥ S 206 b.

pāḍha : pāṭhā aviddhakaraṇī ' pāḍha ' iti loke S 164 b.

pāṇḍuka : *wild pigeon, wood pigeon* ; kapoto vanavāsī ' pāṇḍuka ' iti loke S 220 b.

pānīyavārtikā : *a kind of aquatic bird* ; konālakaḥ śyāmapṛṣṭhaśvetodaraḥ ' pānīyavartikā ' iti loke S 223 b.

pānīyāmalaka : ḍāḍimetyādi(ḍāḍimāmalaka-)prācīnāmalakaḥ ' pānīyāmalaka ' iti loke ; *Flacourtia Cataphracta* S 186 b. 'prācīnāmalakam prāgdeśodbhavam ' pānīyāmalakam ' iti loke S 206 b.

pārśvapippala : nandīvṛkṣo ' tra prarohī gardabhāṇḍaḥ ' pārśvapippala ' iti loke S 168 a.

pālak : *Beta Bengalansis* ; pālaṅkyā ' pālak ' iti loke S 233 a. [*Cf.* Sk. pālakyā.]

pālaṅka : pālaṅkyā śākaviśeṣaḥ ' pālaṅka ' iti loke S 187 a. [*v.s.v.* pālak.]

pāśaka : *a kind of rice* ; śakunāhṛta Uttarakuroḥ sakāśād haṁsair ānītaḥ, Avantyāṁ nagaryāṁ sa eva ' vakra ' nāmnā prasiddhaḥ . Magadhadeśe tu ' pāsaka ' iti S 214 b.

piccita : *pressed flat, squeezed* ; piccitam cippaṭībhūtam ' cirpitam ' iti loke S 205 b

pīṭhavanī : pṛśniparṇī pṛthakparṇī 'pīṭhavanī ' iti loke S 164 a.

pīlu : *a species of tree* (*Careya Arborea or Salvadora Persica*) ; pīlur madhuraphalaḥ ' pīlu ' iti loke S 171 a.

pīluparṇī : kṣīramoraṭaḥ kilāṭamastu ' pīluparṇī ' ity eke S 186 b.

pīṭhasarpin : pīṭhasarpī = paṅguḥ C 690 a.

piśīkā : madhūlakaḥ svalpagodhūmo Madhyadeśe ' piśīkā ' iti khyātaḥ S 210 b.

puṇḍara : puṇḍarīkākṣaḥ ' 'puṇḍaraḥ ' *a species of aquatic bird.* C 156 b.

puṇḍarīkaśāli : *white rice* ; śvetaśāliḥ Magadhe ' puṇḍarīkaśālir ' iti khyātā C 565 a.

puṇḍālikā : (*v.l.* pedulikā) pūtiḥ kīṭaḥ śasyādo varṣākāle karburakaḥ 'telinī ' iti prasiddhaḥ Pūrvadeśe 'puṇḍālikā ' iti S 444 a.

putrañjīvaka : iṅgudī iṅgukaḥ 'putrañjīvaka' ity anye S 172 a.

putrarañjaka : mātṛnindakaḥ priyātmakaḥ 'putrarañjaka' iti loke S 221 a.

putraśreṇī : mūṣikaparṇī 'putraśreṇī' iti khyātā C 488 b; putraśreṇī dravantī S 167 a.

puṣkariṇī : *pond*; vāpī iṣṭakādibhir baddhā sasopānatīrthā 'puṣkariṇī' iti loke S 196 b.

pūā : *cake, sort of bread*; pūpāḥ 'pūā' iti loke S 242 b.

peṅgi : bhṛṅgarājaḥ 'kālacaṭaka' iti Pāriyātrīyāḥ, Kānyakubjās tu 'peṅgi' iti S 31 b.

poi : *Basella Cordifolia*; upodikā 'poi' S 232 b; upodakaḥ 'poi' iti loke S 401 a.

poṭagala : *a species of reed, Saccharum Spontaneum*; poṭagalaḥ hoggalaḥ S 726 a.

poṭikā : (*v.l.* peṭikā) a *variety of Bignonia*; kuberākṣī kāṣṭhapāṭalā, 'po (pe)ṭikā' ity anye S 171 b.

poṭṭalaka : *the stomach or abdomen*; uṇḍukaḥ 'poṭṭalaka' iti loke S 356 b; uṇḍukaḥ poṭṭalakaḥ S 357 b.

poda : *hips*; sphicau kaṭiprothau 'podau' iti loke S 111 a.

prapākataḥ : iti prathamapākataḥ; praśabda ādikarmaṇi C 512 b.

pradhyānam - ghūrṇanam C 501 b.

prasannā : prasannā madirāyā uparitano bhāgaḥ C 637 b.

plava : plavaja iti prasevakagalaḥ pakṣī 'plava' iti khyātaḥ C 672 a.

phañjipatrikā : *Salvinia Cucullata*; vṛṣaparṇī ca tadbhedaḥ 'phañji-patrikā' iti khyātā C 33 a.

phañjīmadanaka : *a variety of Cyperus*; kuṭannaṭaḥ vanyakaḥ 'phañjīmadanaka' iti loke C 581 b.

phaṇijjaka : phaṇijjakaḥ parṇāsabhedaḥ; *a kind of marjorum* C 28 b. [*Cf.* phaṇijjha (ka) ḥ.]

phāṇija : phaṇijjhakaḥ (*marjorum*) 'phāṇija' iti loke S 231 a.

phāṇita : *a large alligator*; śiśumāro dṛtyākāro' antarvaktro bahirniḥśvāsamuk, so'pi dvividho vartuladīrghabhedena, dīrgham 'phāṇita' iti lokāḥ prāhuḥ S 224 a.

phāṇṭa : *infusion, concoction*; phāṇṭaḥ kaṣāya iti C 31 a.

phāṇṭīkṛta : mṛditā iti 'phāṇṭīkṛtāḥ' C 432 b.

phālasā : *Grewia Asiatica or Xylocarpus Granatus*; parūṣako'lpāsthir mṛduphalaḥ 'phālasā' iti loke S 227 b. parūṣakam 'phālasā' (*v.l.* phaṇasu) iti loke S 238 a.

phullālavaṇa : *salt obtained by cooking*; paktrimam pākābhinivṛttam 'phullālavaṇam' iti loke S 186 b.

pheñcāka : *a kind of bird*; laṭṭā 'pheñcāko' raktapucchādhobhāgaḥ C 157 a.

phañjī : *Clerodendrum Siphonantus* ; phañjī brāhmaṇayaṣṭikā C 159 b.

phokāṇḍī : *Ocymum Gratissimum, shrubby basil* ; ajagandhā ' phokāṇḍī ' iti khyātā C 20 b ; ajagandhā phokāṇḍī C 34 a.

phophāndhī : *shrubby basil or Ocymum Gratissimum* ; ajagandhā ajamodā ' phophāndhī ' iti kecit C 24 b.

phophāndhā : ajagandhā ' phophāndhā ' iti khyātā C 580 b.

baïṅgaṇa : *egg-plant, Solanum Melongena* ; vārtāko vṛntāko vartulaphalaḥ ' baïṅgaṇa iti loke S 233 a.

bakapuṣpa : *Agati Grandiflora* ; vasuko bakaḥ ' bakapuṣpa ' iti loke S 165 a (*Comm. ad.v.* 12). vasuko bakaḥ ' bakapuṣpa iti loke, anye to vasuko'rkaḥ S 165 a. (*Comm. ad.v.* 10) : vasukaḥ śivamallikā' bakapuṣpa ' iti loke S 171 b.

bakāiṇi : *Melia Sempervirens* ; ramyako drekkā ' bakāiṇi ' iti loke S 170 b.

bakāluka : *a variety of yam* ; varāhakanda iti varāhakando ' bakāluka ' iti prasiddaḥ anye to vārāhī iti paṭhanti, vārāhī gṛṣṭikocyate S 236 b.

baga : *yellow amaranth, odina Pennata* ; pītakapiṅgalā 'baga ' iti loke S 207 b.

bagahula : *Agati Grandiflora* ; vasuko bakaḥ Kedāragirau ' bagahula ' iti prasiddhaḥ S 245 b.

bagulī : *a crane* ; balākā bakabhedaḥ ' bagulī ', iti loke S 223 b.

baḍaharadeśa : *Name of a place near Banaras* ; ūṣakaḥ kṣāramṛttikā Vārāṇasīsamīpe Baḍaharadeśe bāhulyena bhavati S 167 b.

baru : *a species of inferior grain ?* barukaḥ ' baru ' iti loke S 216 b.

barkarī : *kid, lamb* ; Gayī tu ' chāgale ' ityatra ' bārkare ' iti paṭhati, tatra 'barkarī ' taruṇacchāgī, tasyā idam bārkaram S 405 a.

barbarikā : *Ocimum sanctum* ; kālamālaḥ kṛṣṇamallikā ' barbarikā ' iti loke S 166 a. [*Cf.* barbarā, barbarī a *species of Ocimum* ; barbarikam *Ocimum Villosum.*]

bavahāra : *Bauhinia Candida* ; Karbudāraḥ śleṣmāntakaḥ ' bavahāra ' iti ' lihūsāḍaka' iti ca Deśabhāṣayā prasiddhaḥ S 170 a.

bahuḍī : *name of an aquatic bird* ; kācākṣaḥ kapardiyākaḥ ' bahuḍī ' iti loke S 223 b.

bahuvāra : *Cordia Myxa or Latifolia* ; śleṣmātakī ' bahuvāra' iti loke S 577 a.

bahuvāraka : śleṣmātakaḥ ' bahuvāraka ' iti prasiddhaḥ. C 564 b.

bākucikā : avalgujā bākucikā S 495 a. [*Cf.* avalgujaḥ the *plant Vernonia Anthelminthica.*]

bākucī : phalguḥ kākodambarikā ; avalguḥ ity apare paṭhanti ; avalguḥ ' bākucī ' S 445 b. avalgujā ' bākucī ' S 501 a; avalgujaḥ ' bākucī ' iti like S 233 a. Somarājī ' bākucī ' *Vernonia Anthelminthica* S 58P a. 581 b ; C 612 a.

bāhlīka : bāhlīkam iti=kuṁkumam C 638 b.

bimbiśī : *diarrhoea* ; ' kṣīṇam jvaranīpīḍitam ' ityatra sthāne ' kṣīṇam bimbiśīpīḍitam ' iti paṭhanti kecit ; atra bimbiśīśabdena pravāhikā ucyate ; Bheḍenātroktam : ' pravāhikām iti vidur bimbiśīṁ tvapare budhāḥ.' S 145 b.

bilvanāsī : *a part. plant* ; surasī kapitthasadṛśapatrā 'bilvanāsī' iti loke prasiddhā, śvetanirguḍī ity anye S 166 a.

bisāṇḍa : bisaṁ padmamūlam 'bisāṇḍa' iti loke S 104 a.

BUḌ : nimajjanti 'buḍanti' S 143 a.

buḍita : āplutam iva 'buḍitam' iva S 138 b.

bṛhajjīraka : *large cumin* ; upakuñcikā sthūlajiraka īṣatkṛṣṇo 'bṛhajjīraka' iti loke S 321 b.

bṛhatpatrikā : *Nymphae Lotus* ; kahlāraṁ raktotpalaṁ 'bṛhatpatrikā' iti loke. anye saugandhikotpalam S 172 a.

boḍayikā : *a variety of Ocimum* ; kharapuṣpaḥ maruvakaḥ ; anye kṣavakabhedam āhuḥ, kecit 'boḍayikā' ity āhuḥ S 230 b.

bothaïkā : *Ocimum Gratissimum* ; ajagandhā javānikā 'bothaïkā' ity anye S 191 b ; ajagandhā 'bothayikā', latauṣadhī ity eke, anye yavānikām āhuḥ S 160 b.

bobaī : *Ocimum Gratissimum* ; ajā ajagandhā 'bobaī' iti loke S 467 a.

bobayikā : bastagandhī S 645 a.

bola : *myrrh, Gardenia florida* ; rasaḥ gandharasaḥ 'bola' iti loke S 166 b. [*Cf.* Sk. volaḥ *gum myrrh.*]

bolita : (*v.l.* boḍita) adbhiḥ pāniyaiḥ āplutaḥ S 49 b.

bovaïkā : *a species of Ocimum* ; kharapuṣpaḥ tasyaiva bhedaḥ 'bovaïkām' apare, maruvakam anye S 166 a.

bovayikā : ajagandhā S 429 a.

brāhmaṇī : *a kind of lizard with a red tail* ; āgāragodhikā gṛhagodhikā 'brāhmaṇī' iti loke S 405 b.

bhaṭṭitra : bhṛtum 'bhaṭṭitram' iti prasiddham C 46 a.

bhallūka : *a bear* ; ṛkṣaḥ bhallūkaḥ C 156 a. [*Cf.* bhallūkaḥ 'acchabhallaḥ.]

bhājana : bhājanam=bheṣajasthāpanasthānam C 652 b.

bhāṇḍaṇī : *a species of plant* ; bhāṇḍī 'bhāṇḍanī' iti loke prasiddho viṭapo bhāṇḍadhāvanārtham āsutīvalāḥ samāharanti S 508 a.

bhiṣaṇṭaka : bisam 'bhiṣaṇṭakam' iti loke S 425 b.

bhuā : anye bhuā giripalvalaṁ vā ity āhuḥ ; bhuā nadyāḥ samīpe tatkālakṛtā laghukūpikā, palvalam akhātagartam iti S 196 b. [*Cf.* Sk. bhūkaḥ, bhūkam *a hole.*]

bhumbhuraṭā : śārṅgeṣṭā kākatiktā 'bhumbhuraṭā' iti loke 'gūthakarañja' ity apare S 448 a.

bhumbhuruṭṭāka : śārṅgeṣṭā 'bhumbhuruṭṭāko' veṣṭitaphalaḥ kākamācyanukāraḥ S 583 a.

bhumbhuruḍaka : śārṅgeṣṭā kākatiktā 'bhumbhuruḍaka' iti loke S 455 a.

bhurudākā : śārṅgaṣṭā kākatiktā gauravartulāvaguṇṭhitaphalā 'cirapoṭikā' (*q.v.*) iti prasiddhā, 'bhurudakā' iti Pūrvadeśe S 164 b.

Bhū : na bhāvayati iti=pakvāśayaṁ na prāpnoti C 703 a.

bhūpalaśa : *n. of various plants* ; hastikarṇo gajakarṇākāraikapatraḥ 'bhūpalāśa' iti loke S 172 a.

bhūmyāmalakī : tāmalakī daraphalikā 'bhūmyāmalakī' iti loke ; *Flacourtia Cataphracta* S 689 a, tāmalakī 'bhūmyāmalakī' iti khyātā C 419 b.

bhedalī : *a species of wild animal* ; mṛgamātṛkā pṛthūdarā caturaṅgastrī 'bhedalī' iti loke S 219 b.

macchu : matsyākhyo 'macchu' iti loke khyātaḥ C 385 a.

maṇimaṇī : *n. of various plants* ; maṇḍūkaparṇī 'maṇimaṇī' iti khyātā C 159a. [*Cf. v.l.* mānavatī, thānukatī.]

matsyāka : matsyākṣako brāhmī 'pattūra' (*q.v.*) ity eke ; anye raktapuṣpaṁ ānūpam 'matsyākam' iti loke prasiddham āhuḥ S 395 b.

matsyākṣaka : indrāṇīśākaṁ kecit matsyākṣakam āhuḥ ; nirguṇḍīm apare C 564 b.

mayaṇaphala : *Vanguiera Spinosa* ; madanaḥ piṇḍītakaḥ 'mayaṇaphala' iti loke S 164 a.

mayūrāsthi : kuṭakāsthi śroṇikāṇḍāsthi 'mayūrāsthi' iti loko brūte S 111 a.

maruṇīyā : *Pentapetes Phoenicia* ; bandhujīvo madhyāhnapuṣpakaḥ 'maruṇīyā' iti loke S 170 a-b.

maruvaka : *marjorum* ; kharapuṣpaḥ , maruvakaḥ' anye kṣavakabhedam āhuḥ S 230 b ; kharapuṣpaḥ tasyaiva bhedaḥ , bovaïkām apare maruvakam anye S 166 a ; phaṇijjhakas tīkṣṇagandho 'maruvaka' iti loke, anye tvanenaiva nāmnā prasiddhaḥ S 165 b.

markaṭikā : *a kind of grass* ; madhūlikā tṛṇaviśeṣaḥ 'markaṭikā' iti loke S 542 a.

malayādricandana : *a kind of black sandal* ; kāleyakaḥ kṛṣṇavarṇacandanaviśeṣo 'malayādricandanam' iti loke S 172 a.

malendrīcandana : *sandalwood or Agallochum* ; kālīyakam 'malendrīcandanam' iti prasiddham ; S 164 b.

mahānimba : *Melia Bukajun or Sempervirens* ; ramyako drekkā 'mahānimba' iti loke prasiddhaḥ S 167 a.

mahuvā : *Bassia Latifolia* ; madhūkaḥ guḍapuṣpo 'mahuvā' iti loke S 168 a.

māluyāsarpa : *an animal belonging to the class of Bhūmiśayas* ; kākulīmṛgaḥ 'māluyāsarpa' iti khyātaḥ C 156 a.

māṣavanī : *Glycine Debilis* ; māṣaparṇī 'māṣavanī' iti loke S 167 a.

mugavanī : *Phaseolus Trilobus* , mudgaparṇī 'mugavanī' iti loke S 167 a.

muṇḍikā : *species of plant* ; kulāhalaḥ 'muṇḍikā' iti prasiddhaḥ S 166 a.

muṇḍitikā : *Sphaerantus Hirtus* ; mahīkadambo' lambuṣā 'muṇḍitikā' iti loke ; Jejjaṭācāryo bhūkadambam āha S 467 b.

mudgikā : *Phaselous Trilobus* ; vanamudgas tu vane jāyate kṛṣṇamudga iti prasiddhaḥ. 'mudgikā' iti loke S 216 b—217 a.

mēhadī : *Arabian Jasmine* ; madayantikā nakhādirāgajananī 'mēhadī' iti prasiddhā. [*Cf.* *v.l.* mahīndrī]

meḍhikā : *Odina Wodier, gall nut, Asperagus Racimosus* ; anye ajaśṛṅgī chagalaviṣāṇikā uttamāraṇī 'meḍhikā' iti loke S 161 a ; ajaśṛṅgī 'meḍhikā' S 168 a.

meṇḍhikā : ajaśṛṅgī chagalaviṣāṇikā uttamāraṇī 'meṇḍhikā' iti loke S 165 a.

meṁdī : *Arabian Jasmine* ; madayantikā 'mendī' iti loke, yasyāḥ piṣṭaiḥ patrair nakhānāṁ rāgaṁ striya utpādayanti S 496 b.

moihara : (*v.l.* mosuhara) moraṭo'ṅkollapuṣpaḥ 'moihara' iti loke ; the *flower of Alangium Hexapetalum* S 165 a.

mokhaü : *Shreberia Swietenoides* ; muṣkakasya kṣāravṛkṣasya 'mokhaü' iti loke S 234 b.

mokhaka : muṣkakaḥ kṣāravṛkṣaḥ 'mokhaka' iti loke S 166 a.

moṭha : *Phaseolus Aconitifolius* ; makuṣṭakaḥ 'moṭha' iti khyātaḥ C 115 b. makuṣṭhako 'moṭhaḥ' S 217 a.

moraṭa : *sour buttermilk* ; pīyūṣaḥ sadyaḥprasūtāyā goḥ kṣīraṁ saptāhaṁ yāvat tadeva saptāhāt parato yāvat prasannatāṁ na gacchati tāvat 'moraṭa' ity ucyate ; Sejjaṭas tu vinaṣṭakṣīrabhavam mastu 'moraṭam' ity āha S 203 b. moraṭa ikṣumūlam *root of the sugarcane* S 435 b. nirdahanī (*Premna Spinosa*) 'moraṭaḥ'; agnimantha ity eke ; apare citrakam āhuḥ S 423 b. agnikaḥ (*prob. Semecarpus Anacardium*) ajamodaḥ (*carroway*), moraṭa ity anye S 566 b.

moraṭaka : *Memordica Monadelpha* ; pīulparṇī 'moraṭakaḥ' C 159 b.

moraṭā : pīluarṇī moraṭā, mūrvety anye C 423 a.

yaventikā : *a species of plant* ; yavatiktā yavakṣetreṣu jāyate tikta-saptāṣṭapatrā 'yaventikā' iti prasiddhā S 206 b.

raṅghiṇī : *rheumatism affecting the loins* : gṛdhrasī 'raṅghiṇī' iti loke S 268 a

rallūkā : patrorṇo 'rallūkākhyaḥ' kambalaḥ ; anye tu 'yair haritādīni devāṅgāny upyante te patrorṇāḥ'; 'dhautakauśeyam' ity apare ; 'Māgadha-Pauṇḍrakādi-deśeṣu nāgavṛkṣādayaś catvāro vṛkṣāḥ tatpatrebhyo jātair haritatantubhir ūrṇārūpair vayate yat tat patrorṇam ity eke S 86 b.

ravajukāḥ : madhumastakāḥ S 658 b.

rasavatī : *kitchen* ; mahānasam iti pākasthānaṁ 'rasavatī' iti loke S 246 b.

rāgakarpūra : khaḍayūṣaḥ 'rāgakarpūra' iti khyātaḥ C 205 b.

rājacampaka : *Rottleria Tinctoria or Calophyllum Inophyllum* ; punnāgaṁ devavallabhaṁ 'rājacampakam' iti loke S 166 b.

rājanimbba : ramyako drekkā parvatanimbaḥ 'rājanimba' iti loke S 422 b.

rāmakarpūra : *a species of fragrant grass* ; rohiṣaḥ 'rāmakarpūra' iti khyātaḥ C 423 a.

rāyuka : *a gallinule* ; *Cuculus Melanoleucus* ; dātyūhaḥ kālakaṇṭakaḥ ‘ rāyuka ’ iti loke S 221 a.

rāla : *Vatica Robusta or its resin* ; sarjaḥ sarjarasaḥ ‘ rāla ’ iti prasiddhaḥ S 166 b.

rālā : sarjarasaḥ ‘ rāl ā ’ iti loke prasiddhaḥ S 162 a. [*Cf.* Sk. rālaḥ, rālakaḥ, rāliḥ.]

riṁcha : *a bear* ; ṛkṣo bhallūko ’ tilomaśaḥ ‘riṁcha ’ iti loke S 221 b.

rīcha : *a bear* ; ṛkṣo ‘ rīcha ’ iti loke S 284 b ; 584 b.

rīṁcha : *a bear* ; ṛkṣaḥ bhallūko ’ tilomaśaḥ ‘rīṁcha ’ iti loke S 31 b.

rubuka : *betel nut tree, Areca Faufelor Catechi* ; kramukam pūgaphalaṁ ‘ rubukam ’ ity anye paṭhanti sa cairaṇḍaḥ *castor oil plant* S 579 a.

romaka : *Roman, produced on the river Rumā* ; romakam Rumānadībhavam C 284 b.

romakam : Rumāhṛd-bhavam C 519 a. [*Cf.* Rumā *n. of a River* ; *a kind of saline earth and the salt extracted from it.*]

roru : ṛkṣo nīlāṇḍaḥ ‘ roru ’ iti prasiddhaḥ 219 b ; ṛṣyo nīlāṇḍaḥ ‘ roru ’ iti prasiddhaḥ S 284 b, 562 b ; *a species of deer.*

rohiḍā : *Andersonia Rohitaka* ; rohītakaḥ ‘ rohiḍā ‘ iti khyātaḥ C 456 b.

rohiṣa : *a part. kind of (fragrant) grass, Pistia Stratiotes* ; dhyāmakaṁ kattṛṇaṁ ‘rohiṣa ’ iti loke S 166 b; bhūtīkaṁ sugandhitṛṇaṁ ‘ rohiṣaṁ ’ iti prasiddham S 687 a.

lajjālu : *Mimosa Pudica* ; samaṅgā añjalikārikā ‘ lajjālur ’ iti loke S 168 ; samaṅgā varāhakrāntā ‘ lajjālur ’ iti loke C 432 b.

lajjālukī : samaṅgā añjalikārikā ‘ lajjālukī ’ iti loke prasiddhā S 162 b.

laṭṭuka : guruśabdena svabhāvaguru-laṭṭuka-cipiṭakāder yathoktamātrayāpi bhojananiṣedhaḥ C 95 b.

laḍḍuka : *a kind of sweetmeat* ; modakā laḍḍukāḥ S 242 b.

lapsikā : *a kind of prepared food* ; saṁyāvaḥ kaṇḍakaghṛtaiś cāturjātakakarpūrasugandhaḥ ‘ lapsikā ’ iti loke S 658 b.

lāṅgaliyā : *Methonica* ; agnimukhī ‘ lāṅgaliyā ’ iti khyātā C 32 b.

lāṅgalaka : *a kind of jackal* ; lopākaḥ śṛgālabhedaḥ ’ ‘ lāṅgalaka ’ iti loke S 222 a.

lāṭa : *a kind of bird*; laṭvā pheñjātako (*v.l.* pheñcākaḥ) raktapucchādhobhāgaḥ ’ anye bharadvājabhedam āhuḥ, ‘ lāṭa ’ iti loke S 221 a.

lisāḍa : *Cordia Mixa or Latifolia* ; śeluḥ śleṣmātakaḥ ‘ lisāḍa ’ iti loke S 232 b.

lihūsāḍaka : *Cordia Latifolia* ; karbudāraḥ śleṣmāntakaḥ ‘ bavahāra ’ iti ‘ lihūsāḍaka ’ iti ca deśabhāṣayā prasiddhaḥ S 170 a.

lelītaka : (*v.l.* lelīhaka) sulphur ; pāṣāṇabheda Auttarāpathikaḥ S 454 a.

loṇikā : *Portulacca Oleracea* ; loṇikā svanāmakhyātā C 551 a.

loṇiyā : loṇikā ‘ loṇiyā ’ S 284 a.

vakra : śakunāhṛtaḥ Śrāvastyāṁ 'vakra' nāmnā prasiddhaḥ ; *a variety of rice* C 153 b. śakunāhṛta Uttarakuroḥ saṁkāśād haṁsair ānītaḥ Avantyāṁ nagaryāṁ sa eva 'vakra' nāmnā prasiddhaḥ S 214 b.

vageḍa : *a sort of quail* ; vārtikā varticaṭakāḥ svalpāḥ saṃghātacāriṅaḥ 'vagedā' iti loke S 220 a.

vañjula : *Dalbergia Ujjeinensis* ; tiniśaḥ vañjulaḥ C 422 a.

vaṭṭahī : *a quail* ; vartakah 'vaṭṭahī' iti khyātaḥ . C 156 b.

vatsavatiyā : *Cocculus Cordifolia* ; vatsādanī vatsaputrakaḥ 'vatsavatiyā' iti loke S 232 b.

vaya : a weaver ; kuśalasantānikā kolikavṛttiḥ dvitritanturacitā 'vaya' iti loke prasiddhā, markaṭavāsaṁ kecid āhuḥ S 86 b.

vayā : *a kind of bird, the tailor bird, Sylvia Sativus*; sugṛhā pītamastakā 'vayā' (*v.l.* vaiya) iti loke S 221 a.

varuṇa : varaṇas tiktasāraḥ śākadrumaḥ 'varuṇa' iti loke S 165 a.

varmi : varmiśabdena śūrpākāro dīrgho matsyaviśeṣo grāhyaḥ C 466 b.

valla : *a kind of wheat* ; *Dolichos Senenis or a similar species* ; niṣpāvaḥ 'vallaḥ' C 155 b. [*Cf.* Guj. Mar. vāl].

VARDHI : vardha cchedane ityasmātd vardhanam iti sādhayanti ; vardhanaśabdena ca mūlocchedakārakam saṁśodhanam ucyate C 425 a.

vā : vāśabdo vyavāsthitavikalpavācī C 424b.

vāai : *fork-tailed shrike* ; kuliṅga iti vanacaṭakākāraḥ pītamastakaḥ 'vāai' iti loke C 157 a.

vākasatṛṇa : *a kind of grain* ; *the resin of Boswellia Thurifera* ; mukundo 'vākasatṛṇa' iti C 154 b.

vāḍa : *Clerodendrum Siphonantus* ; phañjīśāko 'vāḍa' iti prasiddhaḥ S 232 b.

vādūla : *Pentapetes Phœnicea* ; bandhūkaḥ bandhujīvakaḥ 'vādulī' (*v.l.* majaniyā) iti loke S 29 b.

vāhasa : *a species of fish* ; vāguñjāraḥ 'vāhasa' iti loke S 224 b.

vikasavanī : śārṅga(e) ṣṭā kākajaṅghā 'vikasavanī' iti loke S 164 b.

virā : vīrā = kṣīrakākotī ; śālaparṇī ' ity apare C 472 b.

vegasara : aśvataraḥ 'vegasaraḥ' sa ca aśvāyāṁ kharāj jātaḥ (*v.s.v.* vesara-) C 156 a, 659 b.

veñculikī : *a kind of tree* ; rājādanam 'veñculikī' iti khyātā C 284 a.

veli : *a creeper* ; latā pratānikā 'veli' iti loke S 34 b.

vellantara : vīrataruḥ śaraḥ, anye tu vīrataruḥ 'vellantara' iti nāmnā prasiddho Jāṅgaladeśe. Narmadātaṭe Carmaṇvatīnadīsamīpe ca, tallakṣaṇam ucyate : vellantarur jagati vīrataruḥ prasiddhaḥ śvetāsitāruṇavilohitapītapuṣpaḥ / ādāritulyakusumaḥ śamisūkṣmapatraḥ syāt kaṇṭakī vijaladeśaja eṣa vṛkṣaḥ //

veśavāra : veśavāraḥ=khāniṣkaḥ ; sa coktalakṣaṇaḥ C 588 b. 589 a.

vesara : *a mule* ; aśvāyāṁ gardabhena janito'śvataraḥ ' vesara ' iti loke S 222 b.

voyāla : *Silurus Pelorius or Boalis* ; pāṭhīnaḥ punar aśakala eva dīrgho nirmalaḥ so'pi ' voyāla ' iti loke prasiddha eva S 224 a.

vyasana : vyasanam=maraṇam ity arthaḥ C 525 b.

śaṅguvāka : *a kind of red rice* ; hāyanakaḥ ' śaṅguvāka ' iti loke, Jejjaṭas tu Ghoṭakapuccha ity āha S 214 b.

śatāurī : *Asperagus Racemosus* ; śatāvarī sūkṣmapatrā ' śatāurī ' iti loke S 164 a.

śapharī : kaṭumatsyakaḥ=sapharī śuṣkamatsyo vā C 639 b.

śambarī : putraśreṇī dravanti eraṇḍasadṛśaphalapatrā alpaviṭapā ' śambarī ' iti loke S 167 a. *Salvinia Cucculata.*

śarālī : śarāriḥ ' śarālī ' iti loke C 156 b. [*Cf.* śaraṭiḥ, -ṭikā ; śarāḍiḥ , śarātiḥ , śarari, śarāli (kā), *a kind of bird commonly called* śarāli.)

śarāva : *a shallow cup or goblet* ; sarakam mṛnmayam pātraṁ ' śarāva ' iti loke S 422 b.

śarkarā : *potsherd, broken earthernware* ; śarkarā pakvabhāṇḍasūkṣmakhaṇḍaṁ śarkareti like S 158 b.

śalaka : *a porcupine* ; śallakaḥ mahāśakalī ' śalaka ' iti khyātaḥ C 156 a.

śalalī-saṁjña : śallakaḥ=śalalīsaṁjñaḥ C 488 a.

śallaka : *a porcupine* ; śallakī godhānukārī vajraśakalaḥ ' śallaka' iti loke prasiddhaḥ S 1713 b.

śaśāgni : *a hawk* ; śaśaghātī cillyākāro mahācaraṇanakhaḥ prahāreṇa śaśakāharaṇaśīlaḥ ' śaśāgni ' iti loke prasiddhaḥ S 221 b.

śaśāri : *a hawk* ; śaśaghātī ' śaśāri ' iti loke prasiddhaḥ S 31 b.

śarikā : *a stalk of reed* ; śareṣikā śarapuṣpasya nālī ' śarikā ' iti prasiddhā C 39 b.

śāṅkulī : śaṣkulya iti śaṣkulyaḥ ' śāṅkulī ' iti loke S 243 a.

śāliñca : śitivārakaḥ=śāliñcaḥ C 601 a.

śimpi : *a small shell or cockle* ; śuktiḥ samudrajā ' śimpiḥ ' C 224 a.

śirasa : *Acacia or Mimosa Sirissa* ; śirīṣo viṣaghātī ' śirasa ' iti loke S 164 b.

śirahalaka : *Indigo plant* ; rañjanī ' śirahalakaḥ ' S 169 a.

śiulīcoppaḍaka : nataṁ tagarapādikā tadabhāve ' śiulīcoppaḍako ' gṛhyate C 29 b.

śoṇā : *Bignonia indica* ; bhallūkaḥ śyonākaḥ ' śoṇā ' iti loke S 165 a. [*Cf.* Sk. śoṇaḥ, soṇakaḥ , śyoṇākaḥ, syonākaḥ.]

śrīkhaṇḍa : *the sandal tree* ; candanaṁ śrīcandanaṁ ' śrīkhaṇḍa ' iti loke S 164 b.

śrīparṇa : śāko mahāpatraḥ ' śrīparṇa ' iti loke S 580 b.

śrīphalā : *the indigo plant* ; nīlinīphalam nīlāñjanikā phalam yasya ' śrīphalā ' iti loke prasiddhiḥ S 561 b.

śrīphalikā : *a variety of indigo* ; nīlinī nīlabudhnā 'śrīphalikā' iti loke S 170 b ; saptalā snuhībhedaḥ, apare śrīphalikāṁ āhuḥ S 171 a ; nīlī nīlinī 'śrīphalikā' iti loke S 192 a ; nīlīphalaṁ śāradam phalaṁ 'śrīphalikā' iti loke S 468 a; añjanakī nīlāñjanikā śāradam phalṁ 'śrīphalikā iti loke S 473 b.

śrīphalī : nīlī nīlāñjanikā śāradaphalā 'śrīphalā' iti loke S 495 b.

śvetabudhnā : śaṅkhinī yavatiktābhedaḥ 'śvetabudhnā' ity eke S 167 a.

saūhā : *Ocimum Pilosum* ; sumukhā rājikā, anye tu vanabarbarikā 'saūhā' iti nāmnā Jejībhuktau prasiddhā S 166 a.

saṁvarī : *Anthericum Juberosum* ; dravantī dantībhedaḥ 'saṁvarī' iti loke S 170 b, dantī prasiddhā, dravantī cīritapatrā 'saṁvarī' iti loke S 193 a.

sakalakanda : a *species of Arum* ; sthūlakando grāmyakandaḥ ; kecit 'sakalakanda' iti paṭhanti, tatrāpi sa evārthaḥ S 236 a.

sagaḍa : *a snare or basket of wickerwork for catching fish* ; plavo mahāpramāṇaḥ prasevakagalaḥ 'sagaḍa' iti loke S 223 b.

saṁkoca : kecit tu saṁkocaṁ = kuṁkumam āhuḥ C 590 b.

saṇahuli : *Crotolaria Verrucosa* ; śaṇapuṣpī śaṇasadṛśaviṭapaḥ 'saṇahulī' iti loke S 170 b. [<*śaṇaphullita- or -ikā]

satīna : *Pisum Arvensi* ; satīnaḥ vartulakaḥ S 94 b, 95 a

sabhā : janapadamalakasthānam C 653 a.

samudraśimbāka : *a species of fish* ; nandivāralakaḥ 'samudraśimbāka' iti loke S 224 b.

sambarī : dantī (*Croton plyandrum*) 'sambarī' S. 193 b.

samyaksīvita : susyūtaṁ iti 'samyaksīvitaṁ' iti loke S 119 a.

sara : *a cobweb* ; sa ntānikā 'sara' iti bhāṣā S 483 b.

saraka : *a drinking vessel or goblet* ; 'sarakam' jalapūrṇapātram S 57 b.

saraṭa : *a lizard* ; gṛhagodhikāṁ jyeṣṭhāṁ ity āhuḥ, anye tu 'saraṭam' āhuḥ S 578 b. [*Cf.* Sk. saraṭuḥ]

sarpacchatraka : *mushroom* ; kandalī śvetaślakṣṇabahupuṭakandaviśeṣaḥ 'sarpacchatrakam' iti loke S 172 a.

sāgavana : *the Teak tree* ; śākaḥ karkaśapatravṛkṣaḥ 'sāgavana' iti loke S 463 b.

sāṅkuraḍa : *Jasminum Auriculatum* ; ambaṣṭhā mācikā 'sāṅkuraḍa' iti loke S 453 a.

sāṅkhulā : *a bivalve shell* ; *any shell or conch* ; śambūka āvartakośaḥ 'sāṅkhulā' iti loke S 224 a.

sājī : svarjikṣāraḥ 'sājī' iti loke S 287 a. [*Cf.* svarjikākṣāra *of the original text, rendered by comm. as* svarji-.]

sātalā : *N. of several plants* ; saptalā 'sātalā' snuhībhedaḥ S 167 a ; saptalā 'sātalā' sehuṇḍabhedaḥ 170 b ; saptalā 'sātalā' iti prasiddhā S 206 b ; sātalā carmakasā C 664 b.

sātavana : *Alstonia Scholaris*; saptaparṇaḥ śālmalīsadṛśaparṇo gajamadagandhapuṣpaḥ śaradi vikasanaśīlaḥ uccairvṛkṣaḥ 'sātavana' iti loke S 164 b; saptacchadaḥ saptaparṇaḥ 'sātavana' iti loke S 169 a.

sādaṇa : *Dalbergia Ujjainensis*; tiniśaḥ syandanaḥ 'sādaṇa' iti loke S 164 b.

sāra : kaśā 'sāra' iti khyātā C 407 b.

sārivā : *N. of several plants*; āsphoṭā 'sāriva' S 433 a. 447 b; gopā (*Ichnocarpus Frutescens*) 'sārivā' S 568 b; anantā sārivā S 665 a.

sāla : *Boswellia Thurifera or Serrata*; śallakī gajabhkṣyā 'sāla' iti loke S 165 b.

sālā : *a porcupine*; śalyako vajraśakalo bṛhadgodhānukārī 'sālā' iti loke S 222 a.

siṁha : siṁhair itī = vyāghraiḥ C 474 a.

siṅghāḍā : *Trapa Bispinosa, Asteracanthe or Barleria Longifolia*; śṛṅgāṭakam jalamadhye trikaṇṭakam 'siṅghāḍā' iti loke S 235 b.

siṇḍākī : mūlakādiśākam eva kiṁcit svinnam kṣuṇṇam sugandhikaṭudravyānvitam vaṭakīkṛtam sūdeṣu 'siṇḍākī' ity ucyate S 235 b.

siddhaka : (*v.l.* siktāka) śiviras Tīrabhuktau 'siddhaka' (siktāka) ity ucyate C 154 b.

siribālikā : *the herb Marsilea Quadrifolia*; suniṣaṇṇakaḥ 'siribālikā' iti loke, Śrī-Brahmadevas tu caturdalam āha S 233 a.

sirivālikā : *Yellow Amaranth*; *Marsilea Quadrifolia*; kuraṇṭikā kṛṣṇasūkṣmaphalā 'sirivālikā' iti loke S 165 a.
suniṣaṇṇakaḥ 'sirivālikā.' catuṣparṇī ity apare (*Oxalis pusilla*) S 187 a.

sirivālī : *Achyranthes Triandra, Marsilea quadrifolia*; pattūraḥ sitivāraḥ 'sirivālī' iti loke prasiddhā S 612 a.

sihai : *a porcupine*; śvāvit sūcisadṛśaromayuktā 'sihai' iti loke S 222 a.

sīsaī : *Dalbergia Sissoo*; śiṁśapā kṛṣṇasārā 'sīsaī' iti loke S 164 b.

sugṛha : *the tailor-bird, Sylvia sutoria*; cullukī sugṛha iti khyātaḥ C 131 a.

surapati : punnāgaḥ suraparṇikā, sugandhipuṣpā Dakṣiṇāpathe 'surapati' (suraṅgī) nāmnā pratītā S 166 b; punnāgas tuṅgaḥ svanāmakhyātaḥ anye suraparṇikā sugandhipuṣpā Dakṣiṇāpathe 'surapati' (suraṅgī) iti prasiddhā S 168 a.

suhāgā : *borax*; ṭaṅkaṇakṣāraḥ saubhāgyāparaparyāyaḥ 'suhāgā' iti loke S 237 a.

sāṭaḍī : *hogweed*; *Boerhavia Procumbens*; punarnavā varṣābhūḥ 'sāṭaḍī' iti loke S 164 a.

sejjaka : a *porcupine*; śvāvit 'sejjaka' iti khyātaḥ C 156 a.

sephanda : *N. of various plants*; kṣudraśvetā śvetasyandā śvetapuṣpā 'sephanda' iti loke S 165 b; girikarṇikā sephandaḥ S 171 a. [*śvetaspandaḥ *for which the text reads* śvetasyandaḥ].

seha : śatāhvakaphalam 'seha' iti khyātam C 161 b. [*Cf.* Sk. śatāhvayā, śatāhvā *Anethum Sowe, Asparagus Racemosus.*]

sehikā : (*v.l.* seḍhikā) *a porcupine* ; śvāvit 'sehikā' (seḍhikā) iti loke S 799 a.

sehuṇḍa : *Euphorbia Ligularia or Cactus opuntia* ; vajravṛkṣaḥ 'sehuṇḍa' iti loke S 166 a : sudhā (*Euphorbia Antiquorum*) sehuṇḍaḥ S 167 a ; sudhā 'sehuṇḍa' iti loke S 190 a, 192 b ; snuhī sehuṇḍaḥ S 441 b, 447 b ; mahāvṛkṣaḥ sehuṇḍaḥ S 195 a.

sehuṇḍakṣīra : *the milky juice of the Euphorbia* ; mahāvṛkṣapayaḥ 'sehuṇḍakṣīram' S 715 b.

sehuṇḍadugdha : *the milky juice of Euphorbia* ; snuhīkṣīraṁ 'sehuṇḍadugdham' S 162 a ; 195 a.

sehuṇḍabhava : *made of Euphorbia* ; saudhaṁ 'sehuṇḍabhavam' S 195 a.

sehuṇḍabheda : saptalā 'sehuṇḍabhedaḥ' S 195 b.

sehuṇḍayaṣṭi : snuhīkāṇḍaḥ 'sehuṇḍayaṣṭiḥ' S 423 b.

sauñcalī : (*v.l.* saucalī) suvarcalā sūryāvartaḥ 'sauñcalī' (saucalī) iti loke S 161 b.

sphuṭanikā : *rheumatism* ; aṅgamarda iti vedanāviśeṣaḥ śphuṭaṇikā' iti loke S 116 a. sadanam aṅgaglāniḥ 'sphuṭanikā' ity spare S 279 a. [*Cf.* Sk. sphuṭanam *cracking of the joints.*]

haṁsapāī : haṁsapādī madhuśravā haṁsapadākārapatrā pītapuṣpā jalayu (mu)ktadeśajātā 'haṁsapāī' iti loke prasiddhā S 164 a.

hadhoḍa : *Sanseviera Roxburghiana* ; mūrvā kandalisadṛśasvalpaviṭapaḥ 'hadhoḍa' iti loke S 172 a.

hariṇaḍuva : *a species of animal* ; mṛgervāruḥ mṛgabhakṣaḥ śṛgālākṛtiḥ 'hariṇaḍuva' (*v.l.* hariṇadruva) iti loke S 221 b.

hariṇadru : *a species of animal dwelling in holes or caves* (*hyena* ?) ; mṛgairvārukaḥ 'hariṇadruḥ' iti loke S 31 b.

haritāla : *a kind of pigeon of a yellowish greenish colour* ; *Columba Hariyala* ; hāridrake 'haritāla' iti khyātaḥ pakṣī C 150 b ; hārīto haritapītavarṇaḥ 'haritāla' iti loke S 221 a.

hāpharamālī: *N. of various plants* ; suvahā rāsnā 'hāpharamālī' vā C 33 a.

hijjala : nicalaṁ 'hijjalam' iti prasiddham C 25 a. vidulo 'hijjalaḥ' C 33 b. niculo hijjalaḥ C 475 b.

hiyāvali : *a kind of plant* ; suvarṇakṣīry anantāsadṛśapatrā 'hiyāvali' iti loke S 170 b.

hispittha : *Trigonella Foenum Graecum* ; aśvabalā Turuṣkadeśe bṛhatpatrā methikābheda eva 'hispittha' iti loke ; tantrāntare methikāhispitthayoḥ pṛthagguṇanirdeśaḥ kṛtaḥ :
vātapittaharā tiktā laghvī śleṣmāvirodhinī /
methikā tatsamaṁ kiṁciddhispittham puṣṭidam guru // S 232 b—233 a.

hisphīttha : aśvabalā 'hisphīttho methikābhedaḥ S 431 b.

huṇḍana : *becoming benumbed or paralysed* ; huṇḍanam śiraḥprabhṛtīnām antaḥpraveśaḥ ; anye tu keśabhūmisphuṭanaṁ śaṅkhalalāṭabhedaś ca śirohuṇḍanam; nāsāhuṇḍanam ghrāṇanāśaḥ ; akṣihuṇḍanam akṣivyudāsaḥ ; jatruhuṇḍanam vakṣaüparodhaḥ ; grīvāhuṇḍanam grīvāstambhaḥ, C. 617 b.

hulahula : *the resin of Pinus longifolia* ; tilaparṇī hulahulaḥ S 172 a; tilaparṇikam 'hulahula' iti loke, Gayī tu tailaparṇikaḥ saralarasaḥ navanītakhoṭir iti prasiddhaḥ S 581 a.

hulahulikā : *Pterocarpis santalinus* ; tilaparṇikā 'hulahulikā' C 159 a.

hulhula : tilaparṇī 'hulhula' iti khyātā C 423 a.

hedvādullī : *Achyranthes Aspera* ; avākpuṣpī apāmārgaḥ kiṁvā 'hedvādullī' iti khyātā C 456 a.

hoggala : *a kind of grass of emollient and diluent property* ; erakā 'hoggalaḥ' C 29 b, 732 b.

INNER—EAR SPECTRA OF VOWEL SOUNDS

By

A. D. TASKAR

Introduction

The studies of vowel sounds till this day meant only harmonic analysis of the speech wave recorded on high precision instruments like oscilloscope by the application of Fourier Theorem. Sufficient has been said regarding the characteristics of vowel sounds. All these analyses showed how one vowel as judged by its resonance regions is different from another. But this is only one side of the problem. The relation between speaker and listner is so very close that even a perfect knowledge of one side of the problem is not sufficient to make us understand the real nature of speech sounds. It is necessary, therefore, to direct our attention to the problem of Perception.

HELMHOLTZ (1) and also H. GRASSMAN (2) went into a study of the analysis of vowel sounds with the direct method of hearing the harmonics of vowel sounds. Then this important problem was side-tracked; it may probably be due to inherent difficulties involved in assessing correctly the various harmonic components of the vowel sounds. A fundamental question in exprerimental phonetics is whether the patterns of a vowel sound as worked out by Fourier or Vercelli analysis (3) or as a matter of fact by any theoretical analysis, and as judged by the ear are the same or whether any changes are brought about due to the non-linearity and transformations of the ear mechanism; and whether these changes are similar for the vowel sounds of the same kind. Professor SANKARAN felt that such a difference should exist (4). This marks his departure from the work of other workers in the field.

A pure tone generates what are called Subjective Tones within the ear. This phenomenon is due to the non-linearity and the assymmetry of the transmission mechanism of the ear. Above a certain limit of amplitude of the impressed tone of frequency f the ear records not only this frequency but also generates tones having frequencies $2f$, $3f$,.........and so on. (5). These are called Aural harmonics. When two pure tones fall on the ear, besides producing the aural harmonics, sets of Combination Tones of the two impressed tones are also generated in the ear. Thus the subjective tones are of two kinds; Aural harmonics and Combination Tones.

Suppose the frequencies of the impressed tones are x_1 and x_2, the summation tones will be of the frequencies $x_1 + x_2$, $x_1 + 2x_2$, $2x_1 + x_2$..............and so on, and the difference tones will be $x_1 - x_2$, $2x_1 - x_2$, $x_1 - 2x_2$,..............and so on.

In general the series of combination tones generated by the ear can be represented by a simple formula ($nx_1 \pm mx_2$) where x_1 and x_2 are the frequencies of the impressed tones and n and m are integral numbers.

The presence of aural harmonics and summation and difference tones, therefore modify the perception of the tonal quality to a great extent. The extent and the nature of this modification can be gauged by the study of outer—and inner-ear spectrum of the tones concerned.

Another factor in the production of tones in the ear is phase difference of the tone concerned. A phase differrence may introduce its own tonal rhythmic patterns which may be perceived as tones by the ear (6).

A measurement of the various aural harmonics and the series of combination tones thus can be made by the direct hearing method when the investigator has got a sufficiently good ear for music. The use of tone frequency generator has been recommended by SMITH (7) who worked out the regions of resonance by the direct hearing method for some Danish vowels. But the significance of these values was never touched by him.

The response (x) of the ear is given by the equation (8)

$$x = a_0 + a_1 p + a_2 p^2 + a_3 p^3 \ldots\ldots\ldots$$

where x is the response of the mechanism of the middle-ear a_0, a_1, a_2,.........etc. are constant and p is the pressure in the ear canal. Frequencies introduced by higher powers of pressure may be present but if they are present at all they must be very faint.

Harvy FLETCHER gives up to third power of pressure. COTTON (9) has worked out the terms up to 7th power of pressure. FLETCHER considers

$$p = p_1 cos\ w_1 t + p_2 cos\ w_2 t$$

where p is the pressure in the middle-ear and p_1 and p_2 are the amplitudes of the applied pressure.

If this value of p is substituted in the above expression the terms of the form $cos\ nw_1 t$, $cos\ mw_2 t$ and $cos\ nw_1 t . cos\ mw_2 t$ are obtained. The first two forms give rise to aural hamonics and the third gives rise to series of summation and difference tones.

An estimate can be made of the inner-ear spectrum which results from impressed tones on the outer-ear. Fletcher points out that " it was assumed that the summation and difference tones were of the same order of magnitude as the corresponding harmonics. The total amplitude of any frequency component was obtained by taking the square-root of the sum of squares of the contributions to this frequency component" (10). This transformation cannot give a true picture

of the inner-ear spectrum for the problem is too complicated for an exact solution, but it may represent the main facts.

Material and Method

To carry out the present investigation the following experiment was arranged.

The subject whose speech was to be recorded was seated in a room 20′ × 10′ × 18′ which had been made partially sound proof by arranging a convass curtain about 3″ from the wall and 1 ft. from the ceiling. The microphone, a Turner velocity dynamic model, was placed at about 1 ft. from the subject. The output of the microphone was fed to an amplifier and thence to the Y_2 beam of the Cathoderay Oscilloscope (CRO-Cossor 1049 double beam Industrial type). To the Y_1 beam of the CRO was fed the output of a standard stabilised electrically maintained tuning fork oscillator at 1,000 c/s. The recording was done by means of an Avimo Camera 35/100/60, which was attached to the CRO with a light-tight hood, and the 35 mm continuous recording film in the camera was electrically run at a speed of 20″/sec. The recording process was controlled through light signals sent to the subject by the person operating the camera. The subjects were requested to speak before the microphone sets of words in a normal way. The subjects were requested to speak before the microphone several times before actually the records were taken, to eliminate as far as possible the inhibitions, if any, imposed by the apparatus. Similarly, remembering that a new language pattern superimposed upon the native-pattern is very often influenced by the latter, the subjects who obliged to give records of Telugu and Marāthi speech-sounds had respectively Telugu and Marāthi mother-tongues.

The analyses of vowel-sounds were carried out by assuming that Fourier Series properly describes a vowel profile. For the purposes of analysis of vowel-sounds 24 ordinates were taken. The scheme of finding out the amplitudes was followed up from WHITTAKAR and ROBINSON (9).

The values of the amplitudes worked out by the Fourier analysis were used to findout the inner-ear spectra of the various speech sounds. To illustrate, an estimate was made by using all the twelve components. The resulting pressure is given by

$$\begin{aligned} p = {} & p_1 cos\ wt + p_2 cos\ 2wt + p_3 cos\ 3wt + p_4 cos\ 4wt + \\ & p_5 cos\ 5wt + p_6 cos\ 6wt + p_7 cos\ 7wt + p_8 cos\ 8wt + \\ & p_9 cos\ 9wt + p_{10} cos 10wt + p_{11} cos 11wt + p_{12} cos 12wt. \end{aligned}$$

The total number of summation and difference tones produced are

w	$2w$	$3w$	$4w$	$5w$	$6w$
12	12	11	11	10	10

7w	8w	9w	10w	11w	12w
9	9	8	8	7	7
13w	14w	15w	16w	17w	18w
6	6	5	5	4	4
19w	20w	21w	22w	23w	24w
3	3	2	2	1	1

The components of their amplitudes are shown in Table III

The next important point in knowing the patterns of vowel sounds is to find out the values of the coefficeints a_0, a_1, a_2 ....and so on. But according to E. G. WEVER (11), " they are not universal constants. Their values vary according to the particular conditions of distortion. Increasing the overloading of the ear, increases the values of the constants beyond a_0, and a_1, and thus increases the total harmonic content. " Though the coefficients cannot be properly evaluated due to varying conditions of the impressed tone, and thus not capable of an exact mathematical representation, it is worthwhile to have at least some idea of the transformations of speech sounds when they pass through non-linearities and the transforming mechanism of the auditory apparatus. Due to all these limitations constants could not be properly evaluated. The use of the data given by S. S. STEVENS and H. DAVIS (12) was made with great resevations. After statistical fitting up the curve of an appropriate degree, the coefficients were found out. Instead of elaborating much on their exact nature proportions were borne in mind, and the patterns worked out in these terms. At the very outset, it is admitted that these are not the true patterns of vowel sounds but mere representations of them.

Results

The values of amplitudes, as worked out on the above stated assumptions are given in Tables I and II for Telugu and Marāṭhi vowel-sounds respectively.

The most important common feature in these figures is that they have got excluding the fundamental only one prominent region of resonance (?). There are other regions of resonance but judged in comparison with the amplitudes of the neighbouring harmonics they are not at all prominent. In Telugu next to the fundamental the third or the foutrth harmonic is felt stronger than the rest of the harmonics while in Marathi fourth or the fifth harmonic follows the fundamental in intensity. This regularity of the prominence of the fundamental and its partials in both Telugu and Māraṭhi for all the different vowels suggests that different vowel-sounds are being distinguished by the ear by means of the fundamental frequencies. But it is known that there are no fixed frequencies for the vowel sounds. Thus it may be evident that the ear is not adopting the criterion of the different frequencies of the regions of resonance for judging the different sounds.

Discussion

Comparing the outer-and inner-ear spectra of the vowel-sounds, we find outwardly some points of similarity in the outer-ear (articulatory-patterns) spectra and the inner-ear (auditory-patterns) spectra ; both the patterns show a number of re-enforcing harmonics. However, judging the structure of vowel-sounds from the regions of resonance, we see that the first two prominent regions of resonance in the auditory-pattern are shifted to the lower side of the pitch-scale, i.e. the frequencies are very much smaller in value than in the articulatory patterns. The behaviour of less prominent regions of resonance is not uniform. These points bring out an important evidence to support the hypothesis that outer-and inner-ear spectra of the same speech sound are distinctly different from each other. The important fact is that these two different patterns of the same speech sound are present at one and the same time

It has been pointed out (in C. R. SANKARAN, (4), p. 33) that the speech sound is a three dimentional entity. The three basic dimensions are duration, frequency and amplitude. Change in any of these three dimensions simultaneously alters the pattern, a fact, alas, too often ignored. Since the acoustic and articulatory events are always to be found together and have different pattern conveying the same meaning, it suggests that the speech-sound is a continuum of acoustico-articulatory events.

The acoustic-pattern of the speech sound is the physical-pattern and the articulatory is the physiological. According to Professor SANKARAN's Theory of Speech Structure (13) " the theory of alphaphoneme which deals with a continuum of acoustico-articulatory 'events' in any consonant-vowel configuration with theoretical acoustico-articulatory time interval of zero between the consonant and the vowel during actual utterence, touches this problem at a far deeper level than it had been imagined, dealing with the interesting question of the possibility of the articulatory-time differing from the acoustic-time. " Perhaps this relation between the 'acoustic' time and the 'articulatory' time is analogous to the transformation in E. A. MILNE's Kinematic Relativity.

$$T = t_0 \log (t/t_0) + t_0$$

Where T is the Newtonian time and t is the 'radioactive' time.

(According to MILNE t is the fundamental scale and $t = O$ being associated with the origin of his uniformly expanding world-model, leading to the mathematical consequence $T = -\infty$). (14)

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TABLE I

Amplitudes—Telugu vowel sounds

	[u]		[i]		[e:]	
	a	*b*	*a*	*b*	*a*	*b*
1	0.75	1.47	1.50	1.30	1.07	1.41
2	0.58	0.87	0.81	0.65	0.73	0.88
3	0.58	1.43	1.46	1.27	0.95	1.41
4	0.76	0.95	1.16	0.83	0.84	0.96
5	0.62	0.64	0.88	0.39	0.82	0.58
6	0.51	0.52	0.69	0.31	0.70	0.61
7	0.44	0.35	0.75	0.39	0.78	0.63
8	0.40	0.23	0.68	0.35	0.63	0.49
9	0.25	0.17	0.72	0.30	0.61	0.52
10	0.20	0.16	0.56	0.26	0.60	0.48
11	0.16	0.18	0.47	0.32	0.51	0.42
12	0.11	0.13	0.43	0.29	0.51	0.46
Fundamental Pitch (C/S)	146	175	152	180	145	185

TABLE II

Amplitudes-Marathi Vowel Sounds

	[u]		[i]		[e]	
	a	*b*	*a*	*b*	*a*	*b*
1	0.29	0.31	0.44	0.89	0.66	0.61
2	0.21	0.18	0.23	0.86	0.41	0.72
3	0.24	0.28	0.25	0.92	0.44	0.54
4	0.39	0.84	0.39	1.34	0.54	0.70
5	0.31	0.22	0.47	0.41	0.67	0.54
6	0.11	0.13	0.20	0.80	0.50	0.60
7	0.17	0.15	0.25	0.22	0.35	0.47
8	0.28	0.22	0.23	0.43	0.35	0.36
9	0.21	0.16	0.17	0.39	0.38	0.40
10	0.10	0.09	0.24	0.36	0.34	0.30
11	0.03	0.07	0.16	0.11	0.30	0.21
12	0.08	0.07	0.20	0.21	0.34	0.33
Fundamental Pitch (C/S)	207	155	147	148	149	128

TABLE III

w.	a2	(p1 p2 , p2 p3 , p3 p4 , p4 p5 , p5 p6 , p6 p7 , p7 p8 , p8 p9 , p9 p10, p10p11, p11p12,) : a1p1
2w.	a2	(p1 p3 , p2 p4 , p3 p5 , p4 p6 , p5 p7 , p6 p8 , p7 p9 , p8 p10, p9 p11, p10p12, p2^2 2) : a1p2
3w.	a2	(p1 p2 , p1 p4 , p2 p5 , p3 p6 , p4 p7 , p5 p8 , p6 p9 , p7 p10, p8 p11, p9 p12) ; a1p3
4w.	a2	(p1 p3 , p1 p5 , p2 p6 , p3 p7 , p4 p8 , p5 p9 , p6 p10, p7 p11, p8 p12, p2^2 2) ; a1p4
5w.	a2	(p2 p3 , p1 p6 , p2 p7 , p3 p8 , p4 p9 , p5 p10, p6 p11, p7 p12, p4,) : a1p5
6w.	a2	(p2 p4 , p1 p7 , p2 p8 , p3 p9 , p4 p10, p5 p11, p6 p12, p1 p5, p3^2 2): a1p6
7w.	a2	(p3 p4 , p1 p8 , p2 p9 , p3 p10, p4 p11, p5 p12, p2 p5 , p1 p6 ,): a1p7
8w.	a2	(p3 p5 , p1 p9 , p2 p10, p3 p11, p4 p12, p1 p7 , p2 p6 , p4^2 2) : a1p8
9w.	a2	(p4 p5 , p1 p10, p2 p11, p3 p12, p1 p8 , p2 p7 , p3 p6 ,): a1p9
10w.	a2	(p1 p11, p2 p12, p1 p9 , p2 p8 , p3 p7 , p4 p6 , p5^2 2): a1p10
11w.	a2	(p1 p12, p1 p10, p2 p9 , p3 p8 , p4 p7 , p5 p6,): a1p11
12w.	a2	(p1 p11, p2 p10, p3 p9 , o4 p8 , p5 p7 , p6^2 2) ; a1p12
13w.	a2	(p1 p12, p2 p11, p3 p10, p4 p9 , p5 p8 , p6, p7)
14w.	a2	(p2 p12, p3 p11, p4 p10, p5 p9 , p6 p8 , p7^2 2)
15w.	a2	(p3 p12, p4 p11, p5 p10, p6 p9 , p7 p8 .)
16w.	a2	(p4 p12, p5 p11, p6 p10, p7 p9 , p8^2 2.)
17w.	a2	(p5 p12, p6 p11, p7 p10, p8 p9 .)
18w.	a2	(p6 p12, p7 p11, p8 p10, p9^2 2)
19w.	a2	(p7 p12, p8 p11, p9 p10)
20w.	a2	(p8 p12, p9 p11, p10^2 2)
21w.	a2	(p9 p12, p10p11)
22w.	a2	(p10p12, p11^2 2)
23w.	a2	(p11p12)
24w.	a2	(p12^2 2)

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ध्रुवतत्त्वप्रकाशः

By

T. S. SRINIVASA SHASTRY.

इदानींतने काले बहवः स्वकीयबुद्ध्यनुसारेण भौतिकं, पारमार्थिकं, सामाजिकं, राजकीयं वा विषयमधिकृत्य विचारयन्ति। विचार्य च पदार्थं निर्णयन्तीति सुविदितमस्माकम्। तत्र च केचन पाश्चात्यविचारसरणिमवलम्बन्ते, केचन पौरस्त्यविचारसरणिम्। सर्वथा विचारस्य प्रामुख्यं ददत इति तु निश्चप्रचम्। न केऽपि श्रुत्युपदिष्टमप्यर्थमविचार्य श्रद्दध्युः। अतो विचारपद्धतिः सृष्टिकालादारभ्य प्रसृता तत्तत्कालिकैः महापुरुषैः शाखोपशाखं वृद्धिं प्रापिता विराजते। अस्मत्पूर्वाचार्या विचारप्रधानान्बहूनमूल्यान्ग्रन्थान्प्रणिन्युः। तेषां विचारदृष्टिः पारमार्थिकमेव विषयमवलम्ब्य प्रावर्तिष्ट। तेषामेव तत्त्वविचारप्रणालीमनुरुध्य भागवतीयां कांचन कथां प्रस्तौमि। तथा हि:-

सर्गादौ हिरण्यगर्भो जगत्सिसृक्षुरात्मानं द्वेधा पातयामास। तत्र दक्षिणो भागः स्वायंभुवो वामो भागः शतरूपा च संपेदे। स्वायंभुवाच्छतरूपायामुत्तानपादः संजज्ञे। उत्तानपादस्य द्वे पत्न्यावभूताम्। ज्येष्ठा सुनीतिनाम्नी नारायणमनवरतं ध्यायन्ती पत्युरनुग्रहाद्ध्रुवनामानं कंचन पुत्रं प्रासोष्ट। द्वितीया च सुरुच्याख्या विषयभोगप्रवणोत्तमनामानं कुमारमसविष्ट। उत्तानपादः सुरुच्यामासक्तमनाः सुनीतिं तिरश्चकार। एकदोत्तानपादः उत्तममङ्के उपवेश्योपलालयन्नासीत्। तदान्तरे तत्रागतो ध्रुवः पितुरङ्के उपविष्टमुत्तममद्राक्षीत्। स्वयमपि ताताङ्कमारुरुक्षुः पितुः समीपमगमत्। पित्रा च समालिङ्गितो ध्रुवस्तदङ्कमध्यरुक्षत्। तदसहमाना सुरुचिर्ध्रुवमङ्कादवतार्य क्रोधेन मुखमुज्ज्वलयन्ती तमुपालब्ध। तदुपालम्भमसहमानो झटिति राजभवनान्निर्गत्य मातुरन्तिकं जगाम। मातुः सकाशे वृत्तान्तं विनिवेद्य सकरुणमरुदत्। सुनीतिरपि कृच्छ्रेण पुत्रं समाधायान्यां गतिमपश्यन्ती "भगवन्तं नारायणमुपास्स्व" इत्युपादिक्षत्। मात्रा सम्यगुपदिष्टो भगवतो नारायणस्य प्रसादमधिजिगमिषुर्गृहान्निर्गत्य वनं जगाम। तत्र भगवता नारदेनादिष्टः महर्षिभिरपि दुःसाध्यां चर्यामास्थाय भगवन्तं वासुदेवं साक्षाच्चकार। उत्तानपादोऽपि स्वकीयाविवेकं गृहान्निर्गतं कुमारं च चिन्तंचिन्तमत्यन्तं विषसाद। उत्तानपादस्य तादृशीं दुरवस्थां निराचिकीर्षुर्भगवान्नारदो राजभवनमाजगाम। राजापि तन्मुखारविन्दाद्ध्रुवस्य परिस्थितिमज्ञासीत्। ततो ध्रुवमानाय्य राज्येऽभ्यषिक्त। अभिषिक्तं कुमारमालिङ्ग्य परां निर्वृतिमध्यगमत्। गच्छता कालेन परैर्मारितमुत्तममाकर्ण्य सुरुचिः प्राणान्विजहाविति कथासंदर्भः।

चरित्रेऽस्मिन्विचार्यमाणे तत्त्वमस्माकमेवं प्रतिभाति। अत्रोत्तानपादपदं जीवं ज्ञापयति। तथाहि:—

'उत्तानौ पादौ यस्य सः' इति विग्रहवाक्यादूर्ध्वाभिमुखचरण इत्यर्थः प्रतीयते। योऽनुत्तानपादः आधारभूतायां पृथिव्यां प्रतिष्ठितपादः स एव लोके व्यवहर्तुं यथेच्छं सुखमनुभवितुं च शक्नोति न तद्विपरीत उत्तानपादः। तद्वद्यो गन्धर्वपत्तनायमानायां सदसद्भ्यां निर्वक्तुमशक्यायामनधिष्ठानभूतायामविद्यायां तिष्ठति स एवोत्तानपादपदज्ञाप्यः जीवः। स वस्तुतो न पारमार्थिकमानन्दमधिगच्छति।

यस्तु तद्विपरीतः सर्वाधिष्ठाने परमात्मन्यवतिष्ठते स एवानुत्तानपादो जीवभावान्मुक्तः अनौपाधिकमानन्दमनुभवति। अतः प्रकृते उत्तानपादो जीवः। जीवस्यान्तःकरणे द्वयी वृत्तिरुदेति। एका शास्त्रमार्गानुसारिणी सुनीत्याख्या सात्त्विकी वृत्तिः। अपरा विषयपथं प्रधावमानोपर्युपरि संसारप्रापिका सुरुच्याख्या राजसी वृत्तिः। यदा जीवः सुनीतावासक्तस्तदा मनसि ध्रुवः = निश्चयः (सच्चिदानन्दरूपस्य परमात्मनः साक्षात्कारः) उत्पद्यते। यदा सुनीतिं निरस्य सुरुच्यामासक्तो भवति तदा तस्यान्तःकरणे उत्तमः (= उत्कटं तमः, अविवेकः) प्रजायते। यावत्कालं जीवः सुरुच्यामासक्तमनाः तावत्पर्यन्तं उत्तमशब्दवाच्यमविवेकं लालयन्क्लिश्यते। पूर्वपुण्यपुञ्जपरिपाकवशाद्गुरुणा सम्यगुपदिष्टः सुनीतिं ध्रुवं च यदा परिगृह्णाति तदैव ध्रुवाख्यपरमात्मनिश्चयाधिगमेन उत्तमः अविवेकः तज्जननी सुरुचिश्च विलयं गच्छति। तदानीं परमां निर्वृतिं विन्दति। एवं चेयं कथा जीवतत्त्वं रमणीयसरण्या प्रकाशयन्ती विचारशीलानस्मानानन्दतुन्दिलयतीति शम्॥

DOES THE ROOT 'NIÑJ' BELONG TO THE 7TH CONJUGATION?

By

V. L. JOSHI

(१) पण्डितप्रवरैः भट्टोजिदीक्षितमहोदयैः सिद्धान्तकौमुद्यां जुहोत्यादिगणे "विजिर्"- (धा. क्र. ११६९)धातुनिरूपणावसरे "णिजिविजी रुधादावपि" इति प्रत्यपादि। सर्वास्वपि सिद्धान्तकौमुदीमातृकासु, परम्परासु, प्रकाशितेषु पुस्तकेषु च अयमेव ग्रन्थः उपलभ्यते। न च उपलभ्यते कुत्रापि "णिज्" धातोः रुधादौ साक्षात् पाठः। उपलभ्यते तु अदादौ (धा. क्र. १०९८) जुहोत्यादौ (धा. क्र. ११६८) च। "त्रुटितः अयं धातुः दीक्षिताङ्गीकृतात् धातुपाठात्" इत्युच्यमाने, न अन्येष्वपि पाणिनीयेषु अपाणिनीयेषु वा धातुपाठेषु[1] "णिज्" धातोः रुधादौ पाठः दृश्यते। नापि उपलभ्यन्ते रुधादिगणकार्यैकसाध्यानि रूपाणि वाङ्मये। यानि तु साधारणानि रूपाणि भवन्ति "निङ्क्ते, निञ्जाते, निञ्जते" इत्यादीनि तानि तु द्वितीयगणस्थ "णिज्" धातोः इदित्वात् नुमि कृते सिध्यन्त्येव। अतः इदमत्र विचार्यते, किमर्थं दीक्षितमहोदयैः "**णिजिविजी रुधादावपि**" इति साटोपं प्रतिपाद्यते इति।

(२) इद तावत् प्रथमतः अस्माभिः निर्धारणीयं भवति, यद् भट्टोजिदीक्षितमहोदयाः प्रसङ्गविशेषेषु अन्येषामपि मतानि अनुवदन्तोऽपि सन्तः प्रायः धातुपाठविषये माधवीयधातुवृत्तिकारं **सायणमेव अनुसरन्ति**। अनेन सायणेन स्वकीयमाधवीयधातुवृत्तौ "णिज रुधादावपि" इति स्पष्टमुक्तम्। परं धातुपाठावसरे तावत् अदादौ, जुहोत्यादौ एव अयं पठितः, न पुनः रुधादौ। एतदेव यथायथं भट्टोजिदीक्षितमहोदयैः अनूदितमिति प्रतिभाति। सायणः तावत् किमर्थं "णिज् रुधादावपि" इति प्रतिपादितवान्" इति विषये विमर्शे क्रियमाणे इद दृष्टिगोचरं भवति, यद् "धातुपाठविषये **सायणः पुरुषकारानुयायी**"। यतः माधवीयधातुवृत्तौ प्रतिपत्रं नैकवारं सायणः "पुरुषकार"मनुवदति इति तु सर्वेषामपि अपरोक्षमेव।

(३) "पुरुषकार"[2] इति कृष्णलीलाशुकमुनिकृता दैवे व्याकरणे व्याख्या। एतेषां कृष्णलीलाशुकमुनिमहोदयानां पाणिनीये व्याकरणे तथा दर्शनान्तरेष्वपि अपूर्वं वैदुष्यं दरीदृश्यते। अत सायणेन स्थाने स्थाने एते महोदयाः अनुस्रियन्ते। एभिः **कृष्णलीलाशुकमुनिमहोदयैः इदंप्रथमतया: "णिज् धातुः रौधादिकः"** इत्युक्तम्। यथा-

दैवम्:—"निङ्क्ते, नेनेक्ति नेनिक्ते शौचेऽर्थे पोषणे तथा" ॥६३॥

पुरुषकार[3]:—"णिजिर शौचपोषणयोः"। रुधादिः जुहोत्यादिश्च" इति। अत्र दैवे तावत् गणस्य विकरणस्य वा उल्लेख एव नास्ति। किच "निङ्क्ते" इति उच्चारितं रूपं परम्पराप्राप्तं सर्वेषामपि

1. See *niñj*, in "Concordance of the Sanskrit Dhātupāthas" by G.B.PALSULE
2. Daiva with Puruṣakāra: Trivandrum Sanskrit Series.
3. *ibid* Page 59.

पाणिनीयानाम् अपाणिनीयानां च अभिमतम् आदादिकमेव। तत्र तावत् इदित्त्वात् "नुम्"। पुरुषकारे तावत् अनवधानात् भ्रान्त्या वा श्नमि कृते रौधादिकस्यैव एतत् इति कल्पयित्वा अस्य "णिज्" धातोः रुधादौ प्रवेशः कारितः, न पुनः अदादौ। अयमेव च पन्थाः आदृतः सायणेन धातुवृत्तौ, दीक्षितैश्च कौमुद्याम्। परं धातुवृत्तौ कौमुद्यां च परंपराप्राप्तं आदादिकत्वमपि अस्य स्वीकृतम् इति तु विशेषः।

(४) अत्रोच्यते :—आदादिकतयैव इष्टरूपसिद्धौ जायमानायाम् रौधादिकत्वस्वीकारस्य नास्त्यावश्यकता। उभयत्र पाठे तु गौरवम्। न चोपलभ्यन्ते रुधादिगणकार्यैकसाध्यानि रूपाणि। नापि च धातुपाठपरंपराबलम्। अतः नाङ्गीक्रियते अयं पन्थाः। एवं च—

"णिज्" धातुः रुधादावपि" इति पुरुषकारमूलम्, सायणानुमोदितम्, भट्टोजिदीक्षितैः पुरस्कृतमपि वचनम् अनुपपन्नम् भ्रान्तिमूलकं च इति विभावयामः ॥

तृफ-तृम्फादीनां विमर्शः ।

By

G. B. PALSULE

विदितचरमेवैतद् अत्रभवतां समेषामपि विदुषां यद् अतिप्राचीनकालाद् आरभ्य अस्मिन् भारतवर्षे संस्कृतभारत्या अध्ययने कापि निरवद्या प्रीतिर्विद्यावतां विद्यते अिति। तदनुसारेण च नैकानि व्याकरणतन्त्राणि तत्तत्काले स्वजनुषा देशमिमम् अलमकार्षुः। अेनेषु च व्याकरणेषु पाणिनीयं व्याकरण प्राचीनत्वसर्वंकषत्वप्रामाणिकत्वादिभिस् तत्तद्गुणविशेषैर् मूर्धस्थानं भजतीत्यत्र न किमपि चित्रम् । किं तु अेतावतैव पाणिनीयेतरेषु व्याकरणेषु कोऽपि गुणविशेषो नास्त्येव अिति न युज्यते वक्तुम् । न हि आम्रं मधुरमिति कृत्वा द्राक्षाः कटुका भवन्ति। अनेनैव न्यायेन अपाणिनीयेष्वपि व्याकरणेषु औचित्य-वशद्य-लाघवादयो गुणविशेषा दरीदृश्यन्ते । अेतदेव अेकेन अुदाहरणेन स्फुटीकर्तुम् अुद्यतोऽस्मि ।

सर्वेष्वपि धातुपाठेषु तुदादिगणे तृफ-तृम्फादयः केचिद्धातवः अुभयरूपेण पठिताः सन्ति, सानुषङ्गा निरनुषङ्गाश्च। तत्र पाणिनीये व्याकरणे ये तावन्निरनुषङ्गास्तृफादयः, तेषां सार्वधातुकेषु तृफति अित्यादीनि, आर्धधातुकेषु च ततर्फ अतर्फीत् अित्यादीनि रूपाणि भवन्ति । ये तु सानुषङ्गास्तृम्फादयस्तेषां सार्वधातुकेषु "अनिदितां हल अुपधायाः क्ङिति (६,४,२४) अित्यनेन नलोपे कृते "शे तृम्फादिनां नुम् वाच्यः" अिति वार्त्तिकेन पुनर्नुमि कृते तृम्फति अित्यादीनि रूपाणि भवन्ति। आर्धधातुकेषु च ततृम्फ अतृम्फीद् अित्यादीनि। अेवम् अुभयत्रापि, सार्वधातुकेषु आर्धधातुकेषु च, सानुनासिकानि निरनुनासिकानि च अिति द्विविधानि रूपाणि भवन्ति ।

अत्रेदं विचार्यते। तृम्फादीनाम् 'अनिदिताम्– -'अित्यनेन नलोपे यत् पुनर्नुम्विधानं तद् वार्तिककारकृतम्, न सूत्रकारकृतम् । वार्तिककारश्च कात्यायनः सूत्रकारात् पाणिनेरुत्तरकालीन अिति नैतदविदितम् अत्रभवतां विदुषाम्। अेवं सति अत्र विषये वार्तिककारात् प्राक् कीदृशी व्यवस्था आसीत् ? किं पाणिनेरपि तृम्फति शुम्भति अित्यादीनि रूपाणि अिष्टानि वा न वा ? यदि नेष्टानि, तर्हि वाद अेव नास्ति। यदि तु अिष्टानि तर्हि कथं लभ्यन्ते ? "अनिदिताम्..." अिति शास्त्रेण प्रसक्तस्य नलोपस्य दुर्वारत्वात् । तस्माद् अत्र अनिदिच्छास्त्रस्याप्रवृत्तिर्वा वक्तव्या, प्रवृत्तिं वा अभ्युपगम्य पुनर्नुम्विधानादिरुपाय आश्रयितव्यः । यतस्तु पाणिनिना नैकमपि कृतम् अतः अस्मिन्विषये पाणिनेः स्वीयं मतं संदिग्धमिव भवति। किं च तृम्फति शुम्भतीत्यादीनि सूत्रकारस्य अनिष्टान्येव अित्यपि कस्यचित् ग्रहः भवेत् । यदि तादृशी शङ्का कस्यचित् संजायेत तर्हि सा सर्वथैव निरवकाशा अिति वक्तुं न शक्यते । आस्तां तावत् । अस्मिन्विषये व्याकरणान्तरेषु कीदृशी समवस्था वर्तते तदधुना आलोचयामः ।

पाणिनेरनन्तरं प्रथममेव शर्ववर्मणः कातन्त्रं दृक्पथमायाति। अस्मिस्तन्त्रे "अनिदनुबन्धानामगुणेऽनुषङ्गलोपः (३·६·१) अित्यनेन शास्त्रेण अगुणे प्रत्यये परतः धातूनामुपधानकारस्य लोपो

भवति । अत्रापि सूत्रकारेण शर्ववर्मणा अनुषङ्गलोपविधायिनः सूत्रस्यास्य प्रवृत्तिस्तृम्फादीनां विषये भवति वा न वा अिति स्वयं किमपि नोक्तम् । केवलं तद्व्याख्यात्रा दुर्गसिंहेण "तृन्फादीनां शुन्भान्तामनि च न लुप्यते" अिति वार्तिकरूपेण अुक्तम् । तृम्फतीति चोदाहृतम् । अन् नाम तुदादीनां विकरणः, पाणिनिव्याकरणस्थशस्थानीयः ।

शर्ववर्मणोऽनन्तरं चान्द्रं व्याकरणम् । व्याकरणेऽस्मिन् "हलोऽनिदितः क्ङित्युपान्तस्य" "शित्यपिति" (५·३·२३-२४) अिति सूत्रद्वयेन क्ङित्प्रत्ययेऽपित्सार्वधातुके च परतः धात्वनुषङ्गस्य लोपो भवति । तृम्फादिविषये तु कातन्त्रवदत्रापि सूत्रकारेण तूष्णीभाव आस्थायि । केवलं वृत्तौ "शे मुचादीनाम्" (५.४,११) अिति सूत्रस्य व्याख्यानावसरे "कथं तृपति-तृम्पति दृपति-दृम्पति ?" अिति शङ्कामुत्थाप्य "धातुष्वेव हि द्विरापाठात्" अिति समाधानं कृतम् । अेवं वदतश्चन्द्रस्य अयमभिप्राय अिति भाति: यदि तृम्फादीनामपि "शित्यपिति" अित्यनेन नलोपः स्यात तर्हि तेषां पाठो व्यर्थ अेव स्यात् । तृफादीनामेव पाठेन तृफति अित्यादीनां सिद्धत्वात् । यतस्तु निर्नुम्कानां सनुम्कानां च अिति द्विविधः पाठः, तेन ज्ञायते यत् तृम्फति अित्यादीन्यपि रूपाणि अिष्यन्ते. "शित्यपिति" अिति च सूत्रस्य प्रवृत्तिः अत्र विषये न भवतीति ।

अिदं च समाधानमंशत अेव समुचितमिति भाति, न तु सर्वथा । कुत अिति चेत्, शे परतः "शित्यपिति" अित्यनेन नलोपे अनुषङ्गपाठस्य अचरितार्थत्वेऽपि आर्धधातुकेषु ततृम्फ अतृम्फीत् अित्यादौ नकारस्य श्रवणं भवत्येव । तेन सनुम्काना पाठस्य सर्वथैव वैयर्थ्यं न भवति । ज्ञापकं च नाम तदेव भवति यदन्यथा सर्वथैव व्यर्थं भवति, न तु तदपि यत् केनचिदंशेन व्यर्थं भवदपि अंशान्तरेण चरितार्थतामनुभवति । आस्तां तावत् । तदेवं चान्द्रकातन्त्रपाणिनीयेषु व्याकरणेषु यथास्थितसूत्राण्येव यदि विचार्येरन् तर्हि तृम्फत्यादीनि रूपाणि न सिध्यन्ति । यदि तु वृत्तिकारादीनामपि अुपपादनं विचार्येत; यच्च तैरुक्तं तत्र किमपि अपूर्वम्, अपि तु सूत्रकाराणामेव अभिमतोऽभिप्रायः परम्पराबृंहितः तैः केवलं साक्षादुक्त्या स्पष्टीकृतः अिति च यदि मन्तुं शक्येत तर्हि सूत्रकाराणामपि तृम्फत्यादीनि रूपाणीष्टानि अिति शक्यते वक्तुम् ।

अधुना क्रमप्राप्ते जैनेन्द्रव्याकरणे दृष्टिपातं कुर्मः । व्याकरणेऽस्मिन् "शे मुचाम्" (५,१,३८) अिति मुचादीनां सार्वधातुकेषु नुम्विधायकसूत्रानुपदमेव "तृफदृफगुफोभशुभाम्" (५,१,३९) अिति सूत्रान्तरं विरच्य तृफादीनामपि तत्रैव विषये नुम्विधीयते । व्याख्यातं च सूत्रमेतत् शब्दार्णवचन्द्रिकायां यथा "तृफादीनां शे नुम्भवति । तृम्फति । दृम्फति..." अित्यादि ।

अत्रेदमवधेयम् । वार्तिककारवत् पूज्यपादेनापि तृम्फादीनां विषये क्ङिल्लक्षणस्य अनुषङ्गलोपस्य प्रवृत्तिः अभ्युपगता । अत अेव नुम्विधानम् । भेदस्तु अयम्---यद्वार्तिककारेण तृम्फादीनां नुम्विहितः, पूज्यपादेन तु तृफादीनाम् । अतश्च वार्तिककारमतेन तृफादीनां सर्वत्र, सार्वधातुकेषु आर्धधातुकेषु च, तृफति ततर्फ अित्यादीनि निरनुनासिकानि रूपाणि ; अेवं तृम्फादीनां तृम्फति ततृम्फ अित्यादीनि सर्वत्र सानुनासिकानि । पूज्यपादमते तु तृफादीनां सार्वधातुकेषु (नुमागमे) तृम्फति अित्यादीनि सानुनासिकानि, आर्धधातुकेषु तु ततर्फ अित्यादीनि निरनुनासिकानि । तृम्फादीनां पुनः सार्वधातुकेषु

(नलोपे) तृफति अित्यादीनि निरनुनासिकानि, आर्धधातुकेषु तु ततृम्फ अित्यादीनि सानुनासिकानि अिति विशेषः। अन्ततो गत्वा लक्ष्यं प्रति मतभेदो नास्त्येव। केवलं साधनं प्रति, कस्याः प्रकृतेः किं रूपम् अिति विषये अेव दर्शनं भिद्यते।

पूज्यपादानन्तरं यौ द्वौ जैनाचार्यौ व्याकरणसूत्रस्य रचयितारावभूताम्, शाकटायनश्च हेमचन्द्रश्च, ताभ्यामपि अत्र विषये पूज्यपादस्यैव सरणी शरणीकृता। केवलं ताभ्यामेको नवीनो विशेषः संपादितः। तथा च ताभ्यां पूज्यपादवत् मुचादीनां नुम्विधायकमेकं सूत्रम्, तृफादीनां चान्यद् अित्यकृत्वा अुभयोरपि नुम्विधानमेकत्रैव सूत्रे कृतं, लाघवं च संपादितम्। तथा च शाकटायनीयं सूत्रम्—"लिपादितृफदृफगुफोभशुभः शे" (४, २, १९८) अिति। लिपादीनां तृफादिना च धातूनां शे परे नम्भवतीत्यर्थः। लिपादिर्नाम मुचादिः। तत्र मुचादिरेव लिपादिरित्युच्यते, गणे लिम्पतेः प्रथमं पठितत्वात्। नम् अित्यस्य च नुम् अित्येवार्थः। हैमं सूत्रमपि —"मुचादि-तृफदृफगुफशुभोभः शे" (४, ४, ९९) अिति। व्याख्यातं च लघुवृत्तौ तेनैव "अेषां शे परे स्वरात् नोऽन्तः स्यात्" अिति। (हेमचन्द्रेण शुद्ध अेव नकारः प्रयुक्तः, न तु पाणिनिवत् सानुबन्धसहितः ततश्च "मिदचोन्त्यात्परः" अिति परिभाषितमपि नास्ति। अतः कारणात् तस्य साक्षादेव "स्वरात् नोऽन्तः" अिति अवश्यवक्तव्यमेव। आस्तां तावत्।)

यद्यपि हेमचन्द्रशाकटायनाभ्याम् उभयोरपि मुचादितृफाद्योरेकस्मिन् सूत्रे अेव नकारागमं विधाय लाघवं संपादितम्, औचिती च प्रदर्शिता, तथापि अेतयोरपि न्यासः सर्वथैव निर्दोषः लघिष्ठश्च अिति न शक्यते वक्तुम्। कुत अिति चेत्-अुच्यते। यदि मुचादिस्तृफादिश्च द्वावपि तुदादेरेव अन्तर्गणौ, अुभयोरपि शे परतः नुमागमरूपः साधारणो धर्मः, न च अुभयोर्यत्किमपि वैलक्षण्यम्, तर्हि का नाम आवश्यकता गणद्वयपाठस्य? किमिति धातुपाठ अुभयोरपि अेकगणरूपेणैव संनिवेशः न क्रियताम्? स तृफादिरिति वा अभिधीयताम, मुचादिरिति वा। नाम्नि आग्रहो नास्ति। अेवं गणैकत्वे मुचादेर्विहितं तृफादेरपि स्यात्, तृफादेर्विहितं मुचादेरपि स्यात्। अत्र न केवलं लाघवमपि तु औचित्यमपि स्यात्।

अयमेव विचारः हेमचन्द्रादुत्तरकालीनेन वोपदेवेन स्वीये कविकल्पद्रुमे साकारीकृतः। तथा हि, तेन मुचादीनामिव तृफादीनामपि पानुबन्धः कृतः, परिभाषितं च पो मुचादिरिति। अस्यार्थः, पानुबन्धको धातुर्मुचादिर्भवतीति। ततश्च यथा मच-लिपप्रभृतयो धातवः "मुच्–लृश्पञ्" "ञि–लिपौश्पञ" अिति पानुबन्धसहिताः पठिताः, तथैव तृफ–शुभ अित्यादयोपि "तृफ–पश्" "शुभ–पश्" अिति सपानुबन्धाः पठिताः। अनायासेन अुभयोरपि शे नुम् भवति। औचित्यस्य लाघवस्य चात्र चरमसीमा संजाता अिति मे मतिः।

सभ्याः। पाणिनेरारभ्य वोपदेवपर्यन्तं तत्तत्तन्त्रे तृफ–तृम्फादीनां या व्यवस्था विहिता सा अस्माभिरालोकिता। तत्र पूज्यपादेन तदुत्तरकालिकैश्चाचार्यैस्तृम्फत्यादीनां रूपाणामिष्टत्वं निःसंदेहं साक्षादेवोक्तम्। यदि च पूर्वोक्तरीत्या पाणिन्यादीनां पूर्वेषां सूत्रकाराणपि अत्र विषये अनुमतिरनुमीयेत तर्हि अेवं वक्तुं शक्यते यद् अस्मिन्विषये साध्यं प्रति विप्रतिपत्तिर्नास्ति। या तु मतभिन्नता सा

साधनं लक्ष्यीकृत्यैव। अेकमेव साध्यं कैश्चित् अनिदिच्छास्त्रस्य तृम्फादिविषये अप्रवृत्तिमभिप्रेत्य संपादितम्, कैश्चितु तत्प्रवृत्तिमभ्युपगम्यापि नुम्विधानेन। तत्रापि कैश्चित् तृम्फादीनां नुम्विहितः, कैश्चित्तृफादीनाम्। तृफादीनां नुमं विधातृभिरपि कैश्चित् मुचादीनां तृफादीनां च पृथक्–पृथक्सूत्रेषु विहितः, कैश्चित्तु अेकस्मिन्नेव। अन्ततः, अेकत्रैव नुमं विधायापि कैश्चिद् गणद्वयं पठितं, कैश्चित्तु अेक अेव। तदेवं साध्यैकत्वेऽपि यत्पूर्वैः संसूचितं ध्वनितं वा, तदुत्तरकालिकैः साक्षादुक्तम्; यत्तैः साक्षादुक्तं तदेभिरुद्घोषितम्। यत्पूर्वत्रास्पष्टमासीत् तदुत्तरत्र स्पष्टं जातम्; यत् स्पष्टमासीत्तत् स्पष्टतरं कृतम्। यत्पूर्वं शिथिलमासीत् तदुत्तरं दृढं कृतम्; यद् दृढमासीत् तत्सुदृढं कृतम्। अनया रीत्या अुत्तरोत्तरत्र रचनाकौशलं, न्यासपाटवं, लाघवम्, औचित्यं चाधिकाधिकं दृश्यते। अेषां पाणिनीयेतराणां व्याकरणानाम् अध्ययनादिकम् अधुना तथा न भवति, यथा भवितुमर्हति। अतः सर्वैरपि अत्रभवद्भिः अविचारितजातिधर्मविशेषैः गुणैकपक्षपातिभिः अुत्सारितमत्सरैः सविशेषाद्दतैतिहासिकसरणीकैश्च अेतानि अपि अवश्यमध्येतव्यानीति संप्रार्थ्य विरमामि।

A NAME IN VISARGA

By

WILLIAM BRIGHT

Recent years have seen the publication of at least three descriptive treatments of Sanskrit phonology in modern terms. One of these, W. S. ALLEN's *Phonetics in Ancient India*,[1] discusses Sanskrit phonetics only, without reference to phonemic analysis. Another, M. B. EMENEAU's ' Nasal Phonemes of Sanskrit ',[2] applies phonemic method to part of the phonetic system. The third, Allan Harrison FRY's ' Phonemic Interpretation of Visarga ',[3] also attempts phonemic analysis. However, though it presents a detailed discussion of the phonetic nature of visarga and its positions of occurrence, FRY's paper reaches a phonemic conclusion which is, I feel, unacceptable.[4]

FRY's conclusion is based on the fact that etymological (or morphophonemic) *s* alternates in sandhi with *jihvāmūlīya* (a voiceless velarised aspiration), with *upadhmānīya* (a voiceless labialised aspiration), with the other sibilants *ś* and *ṣ*, and with a voiceless vowel sound, having the quality of the voiced vowel preceding it. It is correctly printed out that *jihvāmūlīya*, *upadhmānīya* and the voiceless vowel sounds are in complementary distribution; they comprise, infact, the sound-class generally referred to as visarga, written with a single devanāgarī symbol and Romanised as *ḥ*. The further statement is then made, however, that visarga, *ś*, *ṣ*, and *s*—the various reflexes of etymological *s*—are allophones of a single phoneme.

Such a conclusion must have one of two implication. One is that *ś* and *ṣ* are allophones of *s* in morpheme-final position, but separate phonemes in words like *śāntiḥ* ' peace ' and *ṣaṭ* ' six ', this seems an unnecessary case of phonemic overlapping. The other implication is that *ś*, *ṣ*, and *s* are allophones of a single phoneme in all positions. But this is impossible, in the light of the contrasts shown by such minimal pairs as *viśam* ' man (acc.)' vs. *viṣam* ' poison (acc.)', *śamaḥ* ' peace ' vs. *samaḥ* ' equal (masc.)', *māṣaḥ* ' kind of bean' vs. *māsaḥ* ' month .' The contrast between *ś* ans *s* is even the subject of an anecdote.[5] An unwilling student

1. Oxford University Press, 1953 (London Oriental Series, Volume I).
2. *Language*, Vol. 22, pp. 86-93 (1946).
3. *Language*, Vol. 17, pp. 194-200 (1941).
4. I have profited from discussion of this problem with several students of my course in phonemics at the School of Linguistics, Deccan College. I am especially indebted to Sri R. K. SHARMA, who discussed visarga in a paper read at the 1955 All-India Oriental Conference at Annamalainagar—without, however, reaching the conclusions which I am here proposing.
5. Here presented as told to me by Sri S. D. LADDU.

was told by his mother, '*yady api bahu nā' dhīṣe tathā 'pi paṭha putra vyākaraṇam svajanaś śvajano mā bhūt sakalaṁ śakalaṁ sakṛc chakṛt*' 'Even if you do not study much, my son, at least study grammar, so that you may not mistake "a relative" for 'a pack of dogs," "a whole" for "a part," or "immediately" for "excrement." The minimal pairs illustrated are *śvajanaḥ* 'pack of dogs' vs. *svajanaḥ* 'relative,' *śakalam* 'part' vs. *sakalam* 'whole,' and *śakṛt* ' 'excre, ment' vs. *sakṛt* 'immediately.'

Furthermore, a contrast may also be found between *s* and visarga. Although etymological *s* is often represented by visarga in morpheme-final position, Pāṇini gives the statement (VIII. 3,40) *namas purasor gatyoḥ*, translated and explained by Louis RENOU as follows[6] "La consonne *s* est le substitut en fin de mot d'un visarjanīya [=visarga]) des mots *namas* "hommage" et *puras* "avant"-employés comme "gati" (en présence d'une gutturale ou labiale sourde.)[7] RENOU's example is *namaskāraḥ* 'homage.' Another example is *puraskaroti* 'he brings forward,' contrasting with *puraḥ karoti* 'he makes towns' (from *pur*). This evidence requires one of two analyses: either the recognition of visarga as phonemically distinct from *s*, or the hypothesis of a juncture in *puraḥ karoti* which is lacking in *puraskaroti*. Since supporting criteria for the establishment of juncture in Sanskrit are not at hand, I feel that the former analysis is preferable.[8]

Another phonemicisation is possible, however, for visarga one not considered in FRY's paper. If visarga represents various types of voiceless aspiration, it must certainly be regarded as phonetically similar to the voiced aspiration Romanised as *h*. The distribution of the two sounds may therefore be examined, to determine whether or not they are in complementary distribution. Visarga occurs only before pause, as in *agniḥ* 'fire', and in clusters before a voiceless consonant, as in *vipraḥ kartā* 'the priest will do,' *vipraḥ pacati* 'the priest cooks,' and *payaḥsu* 'water.' It never occurs initially or between vowels. On the other hand, *h* occurs initially and between vowels, as in *haraḥ* 'Shiva,' *hyaḥ* 'Yesterday,' and *aham* 'I'. In medial consonant clusters it never occurs before voiceless consonants, but only before voiced ones, as in *āhlādaḥ* 'joy,' *āhvānam* 'invitation.' It therefore appears that visarga and *h* are in complementary distribution and are allophones of one phoneme, which may be symbolised as 'h'.[9]

6. *La Grammaire de Pāṇini*, Fasc. 3, page 129 (Paris, C. Klincksieck, 1954).

7. The use of the term 'gati' is presented by Pāṇini in sūtras 1.4, 60-79.

8. The use of a space in *puraḥ karoti* is in accordance with traditional Romanising practice, based on grammatical criteria; it is not meant to imply a phonological juncture. --It appears that accented texts would be expected to show *purásaroti* but *pùraḥ karoti*, so that this may not be a true minimal pair. The status of accent in spoken Sanskrit is, however, questioned by some scholars, thus, in connection with the mention of *anudātta* or grave accent in Pāṇini VIII. 1.18, Renou remarks; 'L'élément "ton grave" est védique, le ton n'étant pas usité dans la langue parlée.' In any case, an example like *námaskaroti* 'he does homage' shows that the relation between *s* and visarga is independent of accent.

9. It would be possible to recognise voiced *h* as present in the voiced aspirated stops that is, *gh*, *jh* etc. could be considered clusters of unaspirated stop plus *h*, rather than single units. Simi-

The methods of phonemic analysis thus show that *h* and visarga, though of very disparate historical origins, have fallen together to form a single phoneme. It is interesting to note that modern Indian languages likewise lack contrast between voiced and voiceless aspiration, perpetuating the situation here revealed by application of descriptive methods to the study of Sanskrit.

arly, visarga could be recognised in the voiceless aspirated stops. Such phonemic analysis would broaden the distributions of *h* and visarga, but would not disturb their complementarity.

Supplementary Note

Professor M.B. EMENEAU, in a personal communication, has drawn attention to the fact that *s* and visarga also contrast in pairs of words having similar grammatical structure. Examples are *tapaspatiḥ* 'lord of austerities' vs. *tapaḥpātram* 'a man whose austerities have made him a fit recipient of honour', and *yaśaskaraḥ* 'causing renown (m.)' vs. *yaśaḥkāyaḥ* 'fulness of glory.'

जिज्ञासा

By

K. V. KRISHNAMOORTHY SHARMA

ऋगादींश्चतुरो वेदान्प्रमथ्य समुद्दध्रे महाभारतं नामेतिहासरत्नं समस्तधर्मगर्भितं भगवान्कृष्णद्वैपायनः। 'यदिहास्ति तदन्यत्र यन्नेहास्ति न तत्क्वचि'दिति ब्रुवता तेनैव तत्संमितसंदर्भान्तिरास्तित्वं प्रत्यादिष्टम्। शतसहस्रश्लोकात्मकस्य तस्य पठनावसरे मन्दमतीनामस्मादृशां अज्ञानपरिभूतमानसेषु तव्द्याख्यातृजनहृदयेष्वप्यनुत्पन्ना इव केचिद्द्विजातीयाः संशयाः प्रादुर्भवन्ति विसृत्वरतमःपटलकलितवियन्मण्डल इव खद्योताः। द्वित्राण्युदाहरणानि प्रदर्शयाम।

१) द्यूतसभायां कौरवपरिक्लेशितां परिभूतां च तेषां दुर्वचोभिः अन्ते च स्वं वन्दमानां पाञ्चाली धृतराष्ट्रो जातानुकम्पो वरेण छन्दयामास। प्रथमेन वरेण धर्मराजस्य द्वितीयेन तद्भ्रातृणां चादासभावं सा वव्रे। अपि च वरान्प्रदित्सन्तं राजानमाक्षिप्य :—

"लोभो धर्मस्य नाशाय भगवन्नाहमुत्सहे।
अनर्हा वरमादातुं तृतीयं राजसत्तम॥
एकमाहुर्वैश्यवरं द्वौ तु क्षत्रस्त्रिया वरौ।
त्रयस्तु राज्ञो राजेन्द्र ब्राह्मणस्य शतं वराः॥"

[Crit. Ed. 2.63.34-5]

इति वदन्ती पाञ्चाली स्वस्या वरद्वयादधिकप्रार्थनेऽनर्हतामाविरकार्षीत्। सत्येवं, सावित्र्युपाख्याने भगवतो वैकर्तनेः परेतं स्वपतिं प्रत्याजिहीर्षन्ती सावित्री स्वप्रभावेण तं परितोष्य प्रथमतः स्वश्वशुरस्य चक्षुष्मत्त्वं, ततश्च तस्य विनष्टराज्यपुनरधिगमं, ततश्च स्वपितुः पुत्रशतप्राप्तिं, ततश्च सत्यवतः स्वापत्यप्राप्तिं, ततश्च सत्यवतो जीवितं चेति पञ्चकृत्वो वरानवृणीतेति कथासंदर्भः, तस्या अपि क्षत्रियस्त्रीत्वेन कथं युज्यतामिति। [Crit. Ed. 3.281.26,31,37,44 and 51]

२) उद्योगे प्रजागरपर्वणोऽन्ते बहुविधराजनीतिमुपदिशन् विदुरो राज्ञा परतत्त्वविषयकसंशयान्पृष्टः

'शूद्रयोनावहं जातो नातोऽन्यद्वक्तुमुत्सहे' [5.41.5ab]

इति स्वस्य तेषां प्रत्युत्तरप्रदानेऽनर्हतां प्रतिपाद्य सनत्सुजातं स्मृत्वा तेन चोपस्थितेन प्रत्युत्तरं दापयामासेति कथा। परमारण्यके कौशिकब्राह्मणं प्रति मिथिलास्थो धर्मव्याधः शूद्रयोनावुत्पन्नः कथं सर्वानपि धर्मान्व्याचष्टेति न वयं प्रतीमः। [Crit. Ed. Āraṇyaka adhys. 198-206]

३) अष्टविधान्विवाहान्प्रतिपादयन्ति धर्मशास्त्राणि कन्याः परिणिनीषतामेव तान्धर्म्यानधर्म्यान्वा प्रत्यपादयन्निति ज्ञायते। राजकन्या राक्षसविधिनापहरन्तः सर्वेऽपि तासां परिणेतार एवासन्निति बहवः कथाः श्रूयन्ते। भगवानपि वासुदेवः स्वयमेव भीष्मकस्य कन्यां रुक्मिणीमपजहार पर्यणैष्ट च [Bhāgavata Skandha 10]। एकस्य विवाहार्थमन्येन कन्यापहरणमदृष्टश्रुतचरम्। एवं स्थिते काशिराजकन्या अपहर्तुं विचित्रवीर्यमप्रेष्य स्वयं तत्र किमिति प्रावृतद्गाङ्गेय इति [crit. ed. Ādip. adhy. 96]। एतादृश्या विचित्रतरकथाया अन्यत्र क्वाप्युपलम्भो विद्यते वेति।

एतादृशसंशयाः पण्डितप्रकाण्डैर्निराकरणीया इत्यल पल्लवितेन। दिङ्मात्रं तु सूचितम्॥

ACTION AS A MEASURE OF ACCENT*

By

B. CHAITANYA DEVA

The psychophysical components of speech are usually reported under the following characteristics :

1. *Tone or pitch* : From the beginning of phonetic studies, both perceptual and physical, the variations in pitch have been considered as the most important characteristic in speech, so much so that it is invceariably equated with intonation and accent. That it mainly contributes to intonation there is little doubt. But its place in accentuation must be more thoroughly studied before attributing to it the prime place. Since accent is also usually confounded with intonation one can see the obvious equation of pitch with accent.

Pitch is a very primitive psychophysical characteristic common to both speech and music. It is a valid suggestion that the archaic human vocal communication was speech-song and there was a later bifurcation into what we now recognize as speech and music. With such bifurcation, pitch variation has become associated prominently with musical communication and tone-colour (vowel and consonant) with speech. But in emotional states, speech communication is highly regressive towards primitive states and hence pitch again becomes prominent; such regression is obviously associated with the uncounsious urges that impel emotional behaviour.

Pitch variations play a more important role than intensity ('stress ') even in languages that are commonly supposed to employ ' stress accent '. A linguist, operating at perceptual levels, tends to distinguish between pitch and intensity (' stress ') depending upon his auditory as well as articulatory sensations. Also, he is highly conditioned by the language he speaks. The perceptual constancy which he calls accent is a compound of all the acoustical characteristics of speech -- frequency, intensity, formant, duration - as well as linguistic conditioning. However, a physical analysis of speech into the various components reveals that even in ' stress accent ' changes in frequency are more prominent than in intensity.[1]

* This forms part of the research conducted with the generous grants for research of the Poona University to Prof. C. R. SANKARAN.

1. Joseph TIFFIN, Application of Pitch and Intensity Measurements to Connected Speech, *JASA* (*Jl. Acous. Soc. Am.*) 5.225-34 (1934).

2. *Duration* : It is generally regarded that duration is not so greatly changed in accent as pitch. However, accentuation due to emotion does affect the duration of speech sounds to significant extents.[2]

Indian phonetics generally distinguishes three extents of duration : one, two and three *mātrās* (morae)—*laghu*, *guru* and *pluta*. But it is not always made clear whether these values measure vowel lengths or syllabic lengths. They definitely cannot be mesures of vowel length, as can be shown from the following :

Consider the group of Telugu words and the scansion of *u* following :

1.	*kuci* (nonsense word)	*laghu*
2.	*kuci* (a measure)	*guru*
3.	*kurci* (a chair)	*guru*
4.	*kūci* (sharp)	*guru*
5.	*kūrci* (about)	*guru*

In the last two cases the *u* is obviously long phonetically. But in the first three cases the *u* is phonemically short. However, scansion for rhythm always (according to the grammatical rules in Telugu) would give them longer duration (*guru*). Does this valuation relate to vowel length or syllabic length ? Definitely not the first and hence one may attribute this quality to the first syllable containing the *u*.

The latter inference is not necessarily valid, for the physical invariant for phonemic duration is not so fixed as for instance the physical invariant for pitch. It is a common observation that the long vowel is not always longer physically than the short vowel. This raises the pertinent question—Is the physical duration a sufficient measure of linguistic duration ?

3. *Intensity* : This is the physical measure of linguistic stress proper. Howe- ever, intensity is not usually the most significant component accompanying accent or even stress. Pitch variations are more prominent than intensity variations in accentuation. The recent investigations of TASKAR.[3] MOL and UHLENBECK[4] offer ample evidence in favour of such inference.

4. *Tone-colour* : Of all the characteristics of tone the complexity, measurable by the formant structure, is the most difficult to study and yet perhaps it is in this that we may have to search for all the complexity of acoustic phenomena.

2. G. FAIRBANKS and W. PRONOVOST : An Experimental Study of the Durational Characteristics of the Voice During the Expression of Emotion, *Sp. Monogr.*, 8. 85-90 (1941).

3. A. D. TASKAR, *Intonational Patterns in Indo-Aryan and Dravidian*, Thesis awarded Ph.D., of the Poona University, 1955. Unpublished.

4. H. MOL and M. UHLENBECK, The linguistic Relevance of Intensity in Stress, *Lingua*, V. 205 ff (1956).

Tone colour is also perhaps the most primitive factor of bifurcation of speech and music. As EHRENZWEIG has suggested the acoustic constancy of speech unit depends mainly on the tone-colour—i.e., the various speech sounds are mostly, though not fully, distinguishable by their overtone structure.[5]

Right from the beginning of the studies in the psychophysics of speech this aspect has held the greatest interest. The theories of HELMHOLTZ, STUMPF and all the others who followed them base all their inferences on the nature of the formants of speech sounds.

The most recent work of PETERSON and others show that vowels are identifiable by the *relations* of the formant regions of the vowels and not by their *absolute* values.[6] And TASKAR has made the very interesting observation that there is rotation of the vowel loops due to accentuation.[7]

Important as these observations are the more important factor is the interrelations of these various acoustic characteristics. When we consider this aspect of the problem we do not find much information, due to the enormous complexity of the situation.

Considering the nature of pitch, firstly, we know that even for a pure tone there is no one to one correspondence of frequency to pitch. The pitch of a pure tone, though largely dependent on the fundamental frequency, is also influenced by the intensity of the tone. Again the pitch of a very short tone is not the same as that of a tone with a long duration, though the fundamental frequencies in both cases are the same. This fact gains much importance when we see that most speech sounds are of small duration; particulary consonants offer a very fruitful avenue for research, resembling clicks to a great extent. Further, the pitch of complex tones are definitely different from that of pure tones. FLETCHER has demonstrated the difference in some simple cases.[8] LICHTE and GRAY have shown more systematically the enormaous influence of overtone structure on pitch.[9]

Similar is the case with intensity. Tonal intensity is definitely affected perceptually (the perceptual correlate being loudness) by the pitch, duration

5. A. EHRENZWEIG, *Psychoanalysis of Artistic Vision and Hearing*, Routledge Kegan Paul, 1954.

6. R. K. POTTER and J. C. STEINBREG, Toward the Specification of Speech, *JASA* 22.811 (1952).

G. E. PETERSON, The Information-Bearing Elements of Speech, *JASA* 24.634-6 (1954).

7. A. D. TASKAR, *Op. cit.*

8. H. FLETCHER, *Speech and Hearing*, 244-50 (Van Nostrand, 1948).

9. W. H. LICHTE and R. F. GRAY, The Influence of Ovetone Structure on the Pitch of Complex Tones, *Jl. Exp. Psy.*, 49.481 ff. (1955).

and the complexity of the tone. As MUYSKENS remarks, 'Amplitude and complexity of wave are difficult to disentagle. It might be that a very complex wave might appear as of only a small amplitude while the energy content might be enormous as compared with a simple wave of apparently great amplitude.[10]

Durational values similarly affect our perception of tonal qualities. The dependence of pitch and loudness on duration are well known. Recently DENES has reported some interesting results of his work on voicing. He found that the duration of a speech sound is a very definite cue for the perception of voicing; the quality of voicing is usually associated with the definite periodicity and a regularity in the harmonic structure of the speechsound. DENES however noticed that the duration of the speech sound was also a very important factor in voicing, so that it is no more sufficient to associate the voiced nature of sounds with only their periodicity or formant structure.[11] The present writer found in a case of *ḍ* that the consonant sometimes loses all its noiselike characteristic which is usually associated with consonantal structure and becomes completely periodic like the contiguous vowels.[12]

The foregoing remarks have sufficiently demonstrated the fact that it is not in order to take into account any one or two of the physical characteristics of the tone into consideration but we will have to think of some quantity that will at once comprise of all these. Now, frequency and amplitude are related (through mass) n the quantity energy; the energy of a sound may in general be considered as proportional to the product of the squares of the frequency and the amplitude of the tone ($E = m.n^2.c^2$, where m is the mass of the vibrating body, n the frequency of vibration and c the amplitude). This however does not take into account the duration of the tone. The time factor has been accounted for in the measure of power and FLETCHER lists about six different quantitative distinction in power.[13] As a matter of fact, we may even employ these quantities to measure stress. In this case, time however enters into relation as a divisive factor and hence what we get in terms of power is a gross measure of energy per unit time. It suffers from the same drawbacks that the concept of power does in classical mechanics. We have to introduce time as a multiplicative factor so that we get an estimate of the total energy spent in the whole course of utterance.

10. J. H. MUYSKENS, An Analysis of Accent in English from Kymograph Records, *Vox* 62 (1951).

11. P. DENES, The Effect of Duration on the Perception of Voicing *JASA*, 27.761-64 (1955).

12. B. CHAITANYA DEVA, *The Psychophysics of Speech-Melody in Dravidian*, Thesis submitted for the Ph.D., Poona University, 1956. Unpublished.

13. H. FLETCHER, *op. cit.*, 64-80.

The product of energy and time is the measure we are in search of. But this is the quantity known as *action* in quantum physics.[14] Deviously though, we have been led to the same measure of energy as employed in quantum of physics. This relation may be expressed as

$$A = Et, \text{ where } E = \Sigma\, m\, n^2 c^2.$$

Nowhere in this discussion has any assumption been made on the quantal nature or otherwise of energy. The applications of quantum concepts to phonetics will be briefly discussed at the end of the essay. Therefore, to make a distinction, the quantity here being discussed will be termed as the *accent*, or for short *act*. It has the dimensions $M.L^2.\ T.^1$ Since energy is proportional to the product of frequency squared and amplitude squared, for all practical purposes mass need not be measured so long as it is not varied. For any single person, therefore, the quantity $\Sigma\, n^2c^2t$ is a measure of the *act*. The summation sign is involved by the fact that the tones of speech or music are not simple and hence every harmonic contributes its own energy to the total act.

To obtain actually the amount of act we have only to plot the energy of the tone against time and measure the area enclosed by the resultant curve. This area then gives us the measure of the act in the utterance. As an illustration, a single case will be instanced here.

The vowel ā was uttered in neutral state of mind and also in a simulated state of anger. The sound was recorded in the usual manner on an oscilloscope (Cossor 1049). The oscillograms of the two utterances are shown in the accompanying Plate.

The vowel in the second case is accented and its physical characteristics may now be compared with the unaccented one.

The variations in the fundamental frequency (tentatively equated with pitch) are shown in the melody plot, Fig. I. It is seen that the accented vowel has a higher pitch and rate of change of pitch than the unaccented vowel. The measured value for the mean pitch are: Neutral—104.2 cps and Anger—169.8 cps. Also, the duration of the accented vowel is greater.

14. *An Outline of Atomic Physics* 62 (John Wiley, 1946. Written by Members of Physics Staff, Univ. of Pittsburgh), p. 270. *Cf.* also WHITTAKER, *From Euclid to Eddington*, Cambridge, 1949, pp. 185-188.

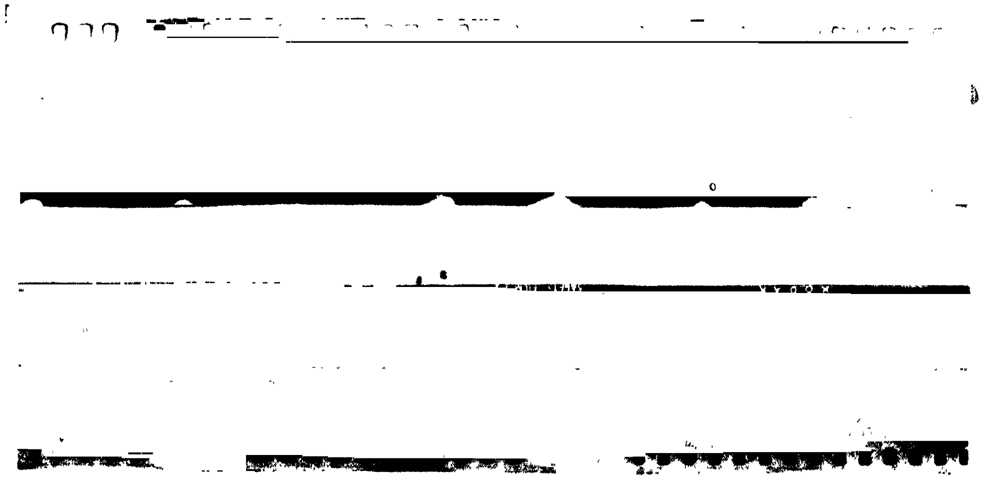

PLATE I: Oscillograms of Vowel ā, Top: Neutral. Below: Anger.
In each case the upper curve is the time-base 1000 cps and the lower one of the vawel.

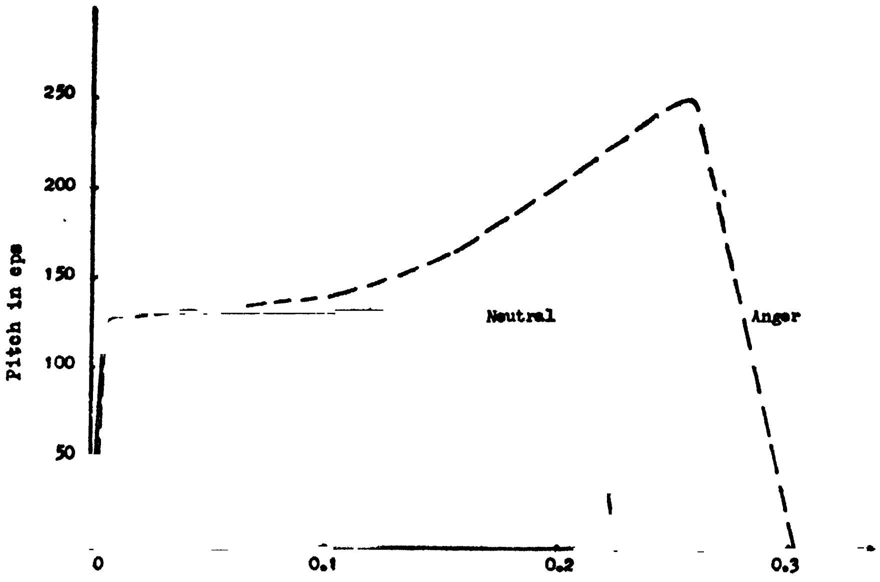

FIG. I : Melody Plot of ā in two emotional states.

To measure act we have to measure the energy of the tones in both cases. It may be done by introducing high speed energy measuring instruments like condenser transmitters in the experimental circuit or by calculations from the oscillograms. The latter method is adopted here.

The oscillograms of the two vowels are subjected to Fourier Analysis (Runge's method). For this purpose the train of periods in each case is sampled at intervals of nearly 0.1 sec. (The importance of the intervals of sampling seems to be very significant, as it may lead us to one of the measures of the alpha-phonoid)[15]. Each period at about this interval was analysed for six harmonics. The tonal spectra are presented in Figure II. Each ordinate in the spectra is proportional to the logarithm of the energy of the over-tone(s). Total energy of the speech sound at the measured instant is $E \equiv \Sigma e$. For each spectrum the time instant of measurement is indicated against t and the fundamental frequency as f. In most cases two formants are noticeable; also noticeable are the changes in the formant. The current literature in the subject abounds in studies in this regard so that no more need be said about this at the present juncture.

15. B. CHAITANYA DEVA, *op. cit.*

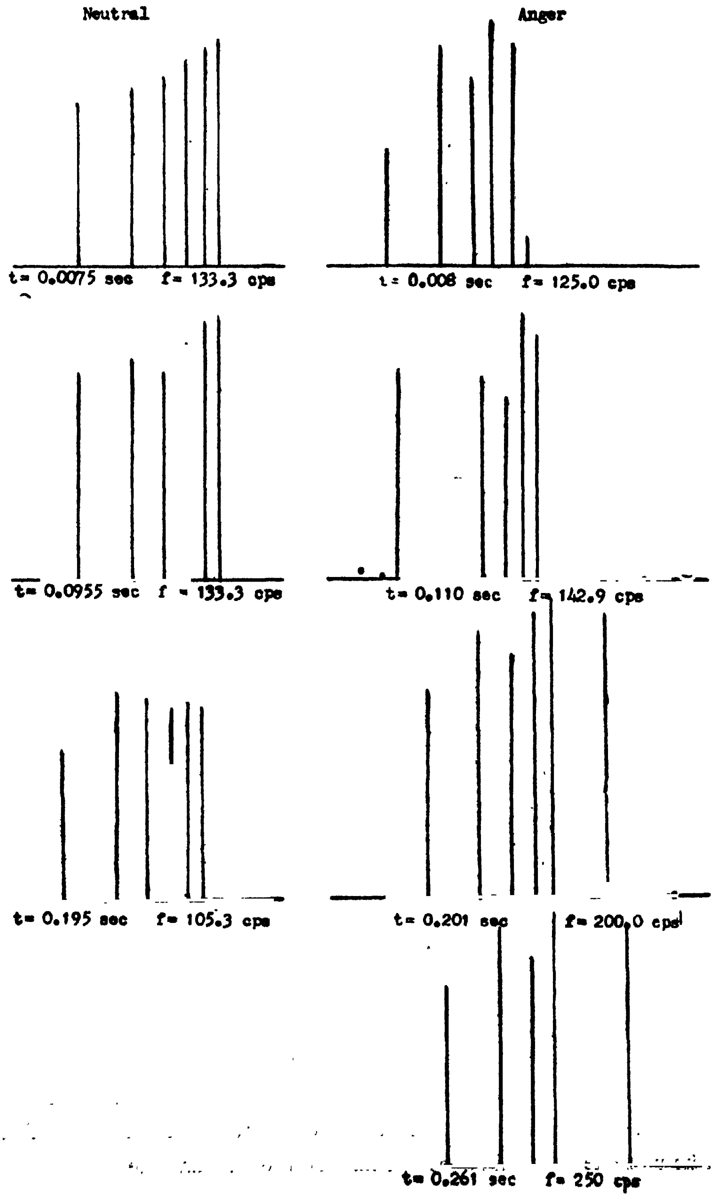

Fig. 11 : Tonal Spectra of ā. Abscissa—log frequency. Ordinate—log E.

The energy, E (strictly speaking the quantity here shown does not take into account the mass factor but the quantity proportional to energy—see above) is now plotted against time in Fig. III. The energy in the accented vowel is very much greater than the unaccented one; the logarithmic plotting of the same values is also shown therein to make the comparison more according to physiological laws.

The area under each curve is then the measure of *act*, A. That is,

$$A = \int_{o}^{t} \triangle E$$

The values of A for the two vowels are: Neutral: 195.9 acts and Anger: 164.2 acts. (Here again these values are proportional to the actual act as the factor of mass has been omitted. To obtain a direct measure of act, the apparatus should measure instantaneous energy directly during the whole utterance). Unit act is equal to the product of unit mass, unit frequency squared, unit amplitude squared and unit time.

Accentuation has, therefore, increased the pitch, duration, energy and action (measured as *act*.). On the face of it we have not gained anything very new with the introduction of act as a measure. But that such a quantity is theoretically necessary is evident from the earlier discussion. Also the more recent work of present writer seems to point to the probability that pitch and energy are in reciprocal relation to duration. This may further lead to the fact that the product of energy and time is constant for any given subject. The amount of action at the disposal for a person may be constant and accentuation would involve a change in the manner of energy production i.e., accentuation can be measured by the nature and manner of energy change and not in the amount of *act*. The way in which energy is ordered in time may be significant. The case reported here is an exception rather than the rule in the light of the more recent data collected by the writer.

It is further suggested here that *act* may give us the necessary measure of quantities like *laghu* and *guru* which problem was presented in the beginning.

The point regarding the arrangement of energy in time referred to above immediately takes us to the nature of ordering of elements. The probability that *act* may be a constant quantity suggests that at the onset of utterance *entropy* is maximum and as the utterance proceeds it decreases.

These aspects of the problem also lead to present concepts of the information theory. In the hands of GABOR, the laws of quantum mechanics find analogous treatment in acoustics.[16] The assumptions of quantum physics in whatever field

16. D. GABOR, Communication Theory and Physics, *Philos. Mag.* 41.1161 ff (1950).
D. M. MACKAY, Quantal Aspects of Scientific Information, *op. cit.* 289.

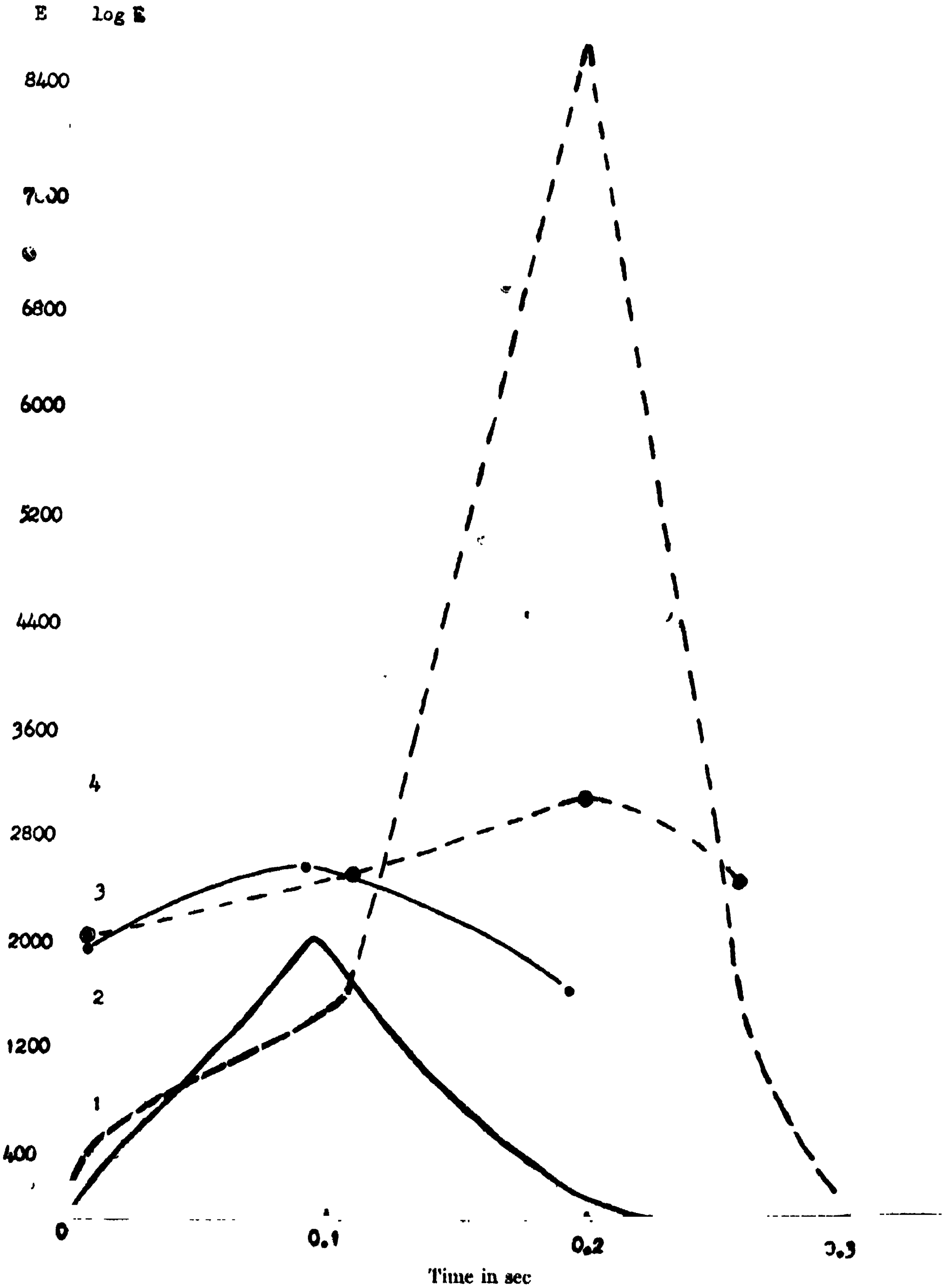

Fig. III, Energy plots. • log. E for Neutral ● log E for Anger.

they be applied are of statistical nature, postulating that the complete description of single event is impossible and only group behaviour is completely describable.

EINSTEIN and INFLED draw attention to the fact that there appears to be very close similarity ' between the mathematical equations governing the acoustical problem and those governing the problem of quantum physics'. But, 'The probability wave is, at a given instant, a function of a three-dimensional continuum, whereas, in the case of the cord the deviation was, at a given moment, a function of the one-dimensional continuum.'[17]

Now, in the case of the indeterminacy of the measurement of space and time, the theoretical possibility of the complete description of a single event is ruled out because time and space have been separated out. As at present obtaining, the conscious human mind seems to be capable of movement forwards, backwards upward and downward (i.e. space is isotropic) only in space and not in time. Our motion in time appears to be only unidirectional, forward. This apparent limitation forces us to separate time and space and find that there are limitations in the measurement of their mutual relations. What if time and space are inseparable? This is not a speculative query but palpable experience. Since there is no time at this ' level, ' there is no ' before-after ' relationships. Hence, there is no uncertainty and every single event can find a complete description. As EINSTEIN says, ' the essentially statistical character of contemporary quantum theory is to be ascribed solely to the fact that this (theory)operates with an incomplete description of physical events.'[18]

17. Albert EINSTEIN and Leopold INFELD, *The Evolution of Physics* 303 (Cambridge, 1947).

18. Albert EINTEIN, My Attitude to Quantum Theory, *Science News* 17.28. (Penguins, 1950). I would further add that the term ' physical event ' should in the final analysis be the relation of the observer to the observed and *at the moment* of relation, there is no distinction between the observed and the observer. At this moment, there is no probability.

Max BORN in his thoughtful paper (always so characteristic of his genius), EINSTEIN's statistical Theories, *Albert Einstein, Philosopher-Scientist* 176, Ed. A. SCHILPP (Tudor Pub. Co., N.Y. 1951) refers to EINSTEIN's following observations in his letter to Max BORN (d. 7 Nov. 1944) :- ' In our scientific expectations we have grown antipodes. You believe in God playing dice and I in perfect laws in the world of things existing in real objects, which I try to grasp in wildly speculative way '. EINSTEIN's dislike of modern physics from this point of view as referred to by Max BORN (*ibid.* 177) is expressed best in his paper (in collaboration with B. PODOLSKY and N. ROSEN), ' Can Quantum Mechancal Descriptions of Physical Reality be considered complete ? ' *Phys. Rev.* 47.777, (1935). It is significant that SANKARAN, in his, The Theory of the Alpha-Phonoid, *Bull. Decc. Coll.* (*BDCRI*) 10.67 and ft. nt. 22 (1950) makes a pointed reference to this paper of EINSTEIN. *Cf.* too Max BORN, *Natural Philosophy of Cause and Chance* 122-3 (Oxford, 1949).

It is of interest also here that in an illuminating letter to Prof. C. R. SANKARAN, d. 23 July 1956, Dr. G. WERNER (of the Faculdade de Medicina, Universidade de São Paulo, Ribeirão Preto, Brazil) says, ' Induction is not a hypothesis-creating process, it is statistical inference with referenence to an Hypothesis already existing. And Hypothesis, we create.. by means of a deduction, since no meaningful question can be asked without knowing at least one possible answer in advance '. WERNER here refers to E. H. HUTTEN, *The Language of Physics : An Introduction to the Philosophy of Science* 22 (Allen and Unwin, 1956). *Cf.* too C. R. SANKARAN's Foreword (ft. nt. 5) to the present author's Sangita Acharya Degree Thesis, *Tonal Structure of Tambura.*

In conclusion, we may also here refer to EINSTEIN's attempt to express everything in fields of forces taking the view that the atomic particles may not be seperate things (against, what to

Though as quoted above, acoustical phenomena seem to be functions of one-dimensional continuum, when we carefully consider we cannot but see that muscular movements both in articulation and audition are three dimensional processes and with acoustic part joined the whole phenomenon is four-dimensional, if not more.

These two aspects find a very brilliant solution in SANKARAN's alpha-phoneme theory. For he has pertinently raised the problem of the nature of time and space and courageously points out that it is only in the inter-phenomenon (*not* the inter-phenomenon of REICHENBACH[19] which is only an interpolation of phenomenological order), which is neither space nor time but yet both and in which lie the seeds of the punctiform origin of time, that we shall be able to find a solution to this tangle of indeterminacy. Inter-phenomenon is then an *intra*-polation in a very special sense. Again, with his insistence on the necessity of articulatory-acoustic (including auditory) nature of sound, he definitely points to multi-dimensional nature of acoustic phenomena requiring a different way of approach.[20]

The nature of action herein derived is not deduceable from quantization. Rather it is the concept of wholeness of phenomena which does not permit of quantization or discontinuity. The more definite method of this problem must be left to development of a technique that is neither continuous nor discontinous. To that end the present material is presented as a poser.

him, is the too limited view derived from the theory of quantum mechanics) but places where gravitation is especially high in density. For, his conviction appears to be that there is no choice ' other than a pure field theory, which, however, has before it the gigantic task of deriving the atomic character of energy ', Albert EINSTEIN, *The Meaning of Relativity* 127-41 (London, 1950) so ably and aptly referred to by C. R. SANKARAN and P. C. GANESHSUNDARAM in, Time and Speec Structure, *BDCRI*, 12 ft. nt. 23, p. 405-6 (1952).

19. *Cf.* Hans REICNENBACH, *Philosophic Foundations of Quantum Mechanics*, Univ. of California Press 1946, pp. 21 and 177; Max BORN, *Natural Philosqhy of Cause and Chance*, *Oxford*, at the Clarendon Press, 1949, pp. 107-8; Edmund WITTAKER, *From Euclid to Eddington*, Cambridge, at the University Press, 1949, p. 84; Ernest H. HUTTEN, *The Language of Modern Physics*, London, 1956, p. 195.

20. *Cf.* C. R. SANKARAN, *Phonemics of Old Tamil*, *Deccan College Monograph Series*, No. 7, 1951, p. 28 and C. R. SANKARAN, A. Contribution to the Study of Speech Structrre, BDCRI, 12 (1951), p. 226.

"ON 'DRSE KAM' AND 'DRSE' IN THE RGVEDA"

By

V. M. APTE

1. When the writer examined critically all the *twenty-five* occurrences of the dative infinitive *dṛśé* in twenty-four stanzas of the *Ṛgveda* (actually twenty-five, but two of them : 1.23.21. and X.9.7. are identical) the results were rather unexpected and demanded (in his opinion) a fresh inquiry into the construction and interpretation of some of these passages. He also feels that as in the case of the Parasmai-pada and Atmane-pada of verbs in the *Ṛgveda*, the investigation becomes interesting as to whether such a classification has a semantic principle underlying it, so the inquiry becomes very relevant as to the principles (if any) governing the use of the dative infinitive : *dṛśé* with an *active* or *passive* force in the *Ṛgveda*. Such an inquiry is undertaken in this paper, which incidentally draws attention to the fact (often overlooked) that in a number of passages where *dṛśé* is immediately preceded by *svàr* or by *sū́ryam*, the rendering " in order that (people or some other implied subject like ' he ' or 'I ') may see the sun or (sun-)light " is loose, as it violates the principle of syntax that the implied subject of the verb in the dative infinitive (when used with an active sense) should be identical with the subject of the sentence of which the infinitive-phrase forms part.

2. We will take up first those six *dṛśé* passages in which it is followed by *kám*. The case of this adverbial particle which appears both as an accented and as an unaccented particle in the *Ṛgveda* is very interesting. The unaccented *kam*[1] which is met with only in the *Ṛgveda* (barring one independent passage in the *Atharva Veda*) *always appears as an enclitic when it follows the accented particles* : *nú*, *sú*, and *hí*, to form frequently occurring, rhythmic but vague phrases, being valuable more for its sound than its sense—a very enfeebled version of ' indeed ' or ' gladly ' which is its full meaning but which could find scope only in the prose portions of the later Saṁhitās and Brāhmaṇas. The accented *kám* again regularly *follows datives in the Ṛgveda* (datives of persons or abstract nous or dative infinitives) and in sense, is an attenuated version of " well " This peculiar behaviour of *kám* is an illustration of the interesting fact that in the *Ṛgveda* the accentuation, meaning or syntactical use of a word is liable to be affected, if combined with a certain other word to form a favourite or rhythmic phrase. Somewhat similar is the story of *dṛśé*, the dative infinitive of the root *dṛś* ' to see '. Whereas, as the infinitive of a transitive verb, it could either govern an object (generally in the accusative case) or could have a *passive* force (as dative infinitives in *e*, *tavai* and *tave*, especially

1. See ' *A Vedic Grammar for students* ' by A. A. MACDONELL, (= *MVGS*) p. 225.

have), in all the six *dṛśé kám* passages in the *Ṛgveda*, the dative infinitive *dṛśé* has a passive force, the sense being " (so) that it may be seen ." This means that a combination with *kám* has affected the meaning of *dṛśé*.

3. To illustrate what has been stated above we now take up first, the six *dṛśé kám*, passages :—

1.123.11^ab :—*susaṁkāśā mātṛmṛṣṭeva yóṣāvistanvàṁ kṛṇuṣe dṛśé kám* |

Trans :—"Of fine appearance, like a young lady groomed by (her) mother, dost thou disclose (thy) body, *for being seen.*"

1.124.6^a : —*evédeṣá purutámā dṛśé kám*............!

MACDONELL[2] translates this in his grammer as an illustration of the passive force of the dative infinitive, thus :—"She here that constantly returns (*so as*) *to be seen.*"

VI. 29.3^cd :—*vásāno átkaṁ surabhíṁ dṛśé káṁ*
svàr ṇá nṛtaviṣiró babhūtha ||

Trans :—" Putting on a fragrant robe, *for being seen*, like the sun, O Dancer, thou (Indra) hast become lively." *Svàr* as the Upamāna of Indra is in the nominative case and cannot be connected, as an object with *dṛśé*, which has a passive force.

X 123.7^cd :—Pāda (*c*) is identical with VI.29.3^c above and Pāda (*d*) reads :—
svàr ṇá nāma janata priyáṇi ||

Trans :—" Putting on a fragrant robe *for being seen*, like the sun, he (the Gandharva) has made (lit. ' produced ') dear names for himself."

X.5.5^ab :— *saptá svásṛráruṣīrvāvaśānó vidvā̃n*
mádhva újjabhārā dṛśé kám |

Trans :—" The knowing one, yearning, has lifted the seven ruddy sisters out of the honey, *for being seen* (i.e. ' that they may be seen ')."

VIII.94.2 :— *yásyā devā̃ upásthe vratā̃ víśve dhāráyante* |
sū́ryāmā̃sā dṛśé kám ||

Trans :—" In whose lap, all the gods maintain their *vratás*; (in whose lap) the sun and the moon (also maintain them), *in order to be seen.*"

In support of the above construction, in which *sū́ryāmā̃sā* is taken as a nominative dual, may be urged the following reasons :—(I) There is first of all,

2. *MVGS*. p. 335.

the general consideration that as in the other *dṛśé kám* passages, *dṛśé* should have a passive force here also.

(II) In the four other passages where *sū́ryāmā́sā* occurs, in the *Ṛgveda*, it is not connected with *dṛśé*. The favourite thought was the expression of a keen longing 'to look upon the sun, or sunlight,' (at the end of the long night). The moon was there for all to see, during this long night and there is no expression of a fervent yearning to look upon the moon. The idea in the stanza is, that the sun and the moon are *to be seen* because they maintain their *vratás*.

(III) The rendering "in order that (people) may see the sun and moon" is open to the objection from the point of view of syntax that the implied subject of the transitive verb (= people) is not identical with the subject (*devā́ḥ*) of the sentence, of which the dative infinitive forms a part.

(IV) The writer construed and translated this stanza in the same way as here, nearly fourteen years ago[3] and is happy to note that the stanza is found construed in the same manner by GELDNER.[4] He says in his note on VIII.94.2^{b} that '*dhārā́yante* ist zeugma' i.e. a figure of speech or turn of expression, in which a verb (*dhārā́yante* here) does duty with two nouns (*devā́ḥ* and *sū́ryāmā́sā*), to one of which (*devā́ḥ*) it is strictly applicable while the word (*dhārayete*, a dual) appropriate to the other noun (*sū́ryāmā́sā*) is not used. Thus GELDNER takes *sū́ryāmā́sā* here as a Nom. Dual. So does GRASSMAN in his '*Wörterbuch zum Ṛgveda*'. Sāyaṇa does the same when he explains Pāda *c* as :—*sūryācandramasau darśanāya sukhena vartamānau bhavataḥ.*

(4) From the foregoing six *dṛśé kám* passages, in which *dṛśé* has invariably a passive force, one is inclined to conclude that the role played by *kám* when placed after the dative infinitive *dṛśé* is that of providing a semantic ballast as it were, to the combination which thus becomes a compact and semi-independent unit in which *dṛśé* has a passive force.

(5) We now take up those eight passages in which there are nine uses of the infinitive *dṛśé*, the passive sense of which cannot be in doubt :—

I.51.4^{cd} :— *vṛtrám yádindra śávasā́vadhīráhim |*
ā́d ít sū́ryam divyā́rohayo dṛśé ||

Trans :—"When thou, O Indra, didst slay Vṛtra, the dragon with (thy) might, right then didst thou raise the sun into heaven, *so that it may be seen.*" *sū́ryam* is the object of the verb *arohayaḥ* and not of *dṛśé* which, standing by itself, has a passive force.

3. *BDCRI*, Vol. III. p. 426 and p. 430.
4. *Der Rig-veda*. H.O.S. Vol. 34 p. 419.

I.52.8[d] : – *ádhārayo divyā sūryaṁ dṛśé* //

Trans :—" Thou (O Indra) hast held the sun up in the heaven, so that it may be seen."

X.60-5 :— *índra kṣatrā̆samātiṣu ráthaproṣṭheṣu dhāraya* / *divīva sūryam dṛśé* //

Trans :—Maintain (kṣatriya-) might among the Asamātis, among the *Rathaproṣṭhas*, as if it were the sun in heaven, *so that it may be seen*." It is to be noted that *sūryam* here is an integral part of a simile and the Upamāna of *kṣatrā̆*, the object of dhāraya *and is not to be connected as an object with dṛśé*, which has a passive sense.

IX. 102.6[ab] :—*yámīṁ gárbhamṛtāvṛ́dho dṛśé cā́rum ájījanan* /

Trans : "Whom the prosperers of Ṛta (the priests or Gods) have created as the foetus, charming to look at (lit. " for being seen ")

IV.11.1[cd]. :—*rúśad dṛśé dadṛśe naktayā̆ cid árūkṣitaṁ dṛśá ā̆ rūpé ánnam* //

Trans : " Bright *to behold* (*lit. 'for being seen'*) it (i.e. thy propitious face, O Agni) is seen even by night. Sleek *to behold* (*lit. 'for being seen'*) is the food, in thy outward appearance. "

VII.15.5 :—*spārhā̆ yásya śríyo dṛśé rayír vīrávato yathā* / *ágre yajñásya śócataḥ* //

Trans : " (Agni) Whose splendours are *lovely to look at* (*lit. 'for being seen'*) like the wealth of a possessor of heroes, when he blazes up in front of the sacrifice. "

IX.64.30 :—*ṛdhák soma svastáye saṁjagmānó diváḥ kavíḥ* / *pávasva sūryo dṛśé* //

Trans : " Clarify thyself, as *sūrya for being seen*, O Soma, Heaven's seer, (after) having properly mixed thyself (with milk and water), for welfare.

X.170.3[cd]. : —*viśvabhrā̆d bhrājó máhi sūryo dṛśé* / *urú paprathe sáha ójo ácyutam* //

Trans : " The All-illumining mighty radiance, (that is) Sūrya, has extended wide, its power and unquivering might, *that it may be seen.* "

6. From these nine uses in eight passages of the dative infinitive *dṛśe* with an undoubted passive force, we may be permitted to infer certain principles governing such use. '*dṛśé*' in six out of these eight passages stands *at the end of a Pāda* and unconnected with any other word in the acusative case syntactically, which evidently conduces to its passive sense. In the remaining three uses of it, we find

some specifications of the implied subjects of *dṛśé* in the passive sense such as 'bright' and 'sleek' (IV.11.1cd) and 'charming' (IX.102.6b) accompanying it which therefore, means :— 'for being seen' or 'when seen'.

7. We now turn to those six passages, in five of which *svàr* immediately precedes *dṛśé* and tempts us to translate the phrase as 'to see the sun (or sun-light).' On a close examination, (as undertaken below) it will be found however, that *svàr* (and *sū́ryam* which follows *dṛśé* in the sixth passage i.e. in I.50.1c) goes with some other verb in the sentence and *not* with *dṛśé*. which (having no object to govern) has a passive force.

VII.81.4[ab] :—*ucchántī yā́ kṛṇóṣi maṁhánā mahi*
prakhyái devi svàr dṛśé

Trans : " Great Goddess ! (Thou) Who shining forth willingly createst the heavenly light (*svàr*) that it may be seen (*dṛśé*) and observed (*prakhyái*)". It should be noted here that *svàr* is the object of *kṛṇóṣi* and *not* of *dṛśé* which (standing apart) has a passive force. The other dative infinitive *prakhyái* also has a passive force here.

VIII.49.8[cd] :—*yébhir ápatyam mánuṣaḥ parīyase yébhir viśvaṁ svàr dṛśé* ||

Trans : "(Those tawny steeds of thine) with whom thou (Indra) goest round the progeny of Manu, (and goest round) the entire light of heaven (*viśvaṁ svàr*) *in order that it may be seen.*" That *parīyase* (the verb in the first hemistich) is the verb to be taken as understood in the fourth Pāda is rendered almost certain by VIII.50.8[d] : -*yébhiḥ svàḥ parīyase*, where *yébhiḥ* refers to the tawny steeds of Indra, which go round *svàr* as described in our passage.

X.136.1 :—*keśyágniṁ keśī́ viṣáṁ keśī́* bibharti *ródasī* |
keśī́ viśvaṁ svàr dṛśé (keśīdáṁ *jyótiruchyate*) ||

Trans*: " The long-haired one bears (within himself) Agni, (and) the poison (a narcotic drink ?) and (bears within himself) the entire light of heaven, so that it can be seen. (The long-haired one is said to be this radiance)." It is only natural that the verb *bibharti* in the second Pāda should be understood as going with *keśī́* as its subject, in the third Pāda, as it does with *keśī́* twice, in the first Pāda and as having *viśvaṁ svàr* for its object. That *keśī́* should 'contain within himself the entire light of heaven' is so eminently in keeping with *keśī́* being described as 'this light' in the fourth Pāda.

IX.61.18. *pávamāna rásastáva dákṣo virā́jati dyumā́n | jyótir viśvaṁ svàr dṛśé ||*

Trans : " O Pavamāna, thy juice, efficient (and) lustrous (that it is) shines (as) a radiance ; (shines as) the entire light of heaven, *that it (juice) may be seen.*"

The Soma juice here is envisaged as the sun, just as, it is so fancied[5] in IX.48. 4[a] and IX.10.5. It is interesting to note that like *keśin* in X.136.1 translated above, in this verse, the Soma juice is fancied as *víśvaṁ svàr* (the entire light of heaven') and *jyótis* (' radiance ').

1.50.5 :—*pratyáñ devā́nāṁ víśaḥ pratyáñ údeṣi mā́nuṣān |*
pratyáñ víśvaṁ svā̀r dṛśé ||

Trans : " Thou risest (O Sūrya) facing (lit. 'turned towards ') the divine hosts, facing men, facing the entire light of heaven, *that thou mayest be seen.* " It will be seen that in all the four passages discussed above : VIII.49.8 ; X. 136.1 ; IX.61.18. and the present one (1.50.5), *víśvam* goes with *svàr.* Geldner's[6] objection to this, stems probably from the lack of a proper appreciation of the fact that the Ṛgveda always envisages the rising sun as facing a sky-region, already illumined in its entirety (*víśvam svā̀r*) by the light of the Dawn (or the Dawns and probably by the aurora preceding even the Dawn. This already illumined entire region is called *víśvam svā̀r* (as here) or *rocanám* as in I.49.4b and 1.50.4c where the Dawn and the sun are (respectively) said to be shining upon 'the entire illumined region ' : *víśvam ābhā́si rocanáṁ.*

1.50.1 :—*úd u tyáṁ jatávedasaṁ devám vahanti ketávaḥ |*
dṛśé viśvāya sū́ryam ||

Trans : " The rays (fancied as the steeds of the sun) bear up that *Jātávedas,* the god, the *sū́rya*, for the benefit of the universe, *so that it can be seen.*" *Sū́ryam* must be taken here as *in apposition* to *Jātávedasam* (identified here with the sun, because the steeds of the sun bear up *Jātávedas,* as described in the first two Pādas) and as the object of the verb *vahanti.* The dative *víśvāya* falls into the category of the dative "which[7] expresses the person for whose advantage or disadvantage, the action of the sentence takes place." *dṛśé* thus stands apart and has a passive force.

8. We take up next those passages where the translation of *svā̀r* (or *sū́ryam*) *dṛśé* is given as "in order that (people) may see the sun." There is a serious objection to this, from the point of view of syntax namely, that the implied subject ('people') of the dative infinitive is not identical with the subject of the main verb in the sentence. What (in the humble opinion of the writer) is the correct rendering of *dṛśé* in these passages—a rendering which is not open to the objection pointed out is shown below :—

1.23.21.(=X.9.7.) :—*ā́paḥ pṛṇītá bheṣajáṁ várūthaṁ*
tanvè máma | jyók ca sū́ryam dṛśé ||

Trans : " (Ye) Waters ! Enrich the medicine, (as) a safeguard for my body and *in order to enable me to* (*lit. to make me,*) see the sun yet longer. " The way out of

5. *H.O.S.* Vol. 35. p. 37.
6. op cit. Vol. 35, p. 369.
7. *MVGS.* p. 314.

the difficulty is thus to give a *causative* sense to *dṛś* (to show.) This is Not unusual[8] in the *Ṛgveda* and (in the opinion of the writer) is, in any case less objectionable *syntactically*, than the rendering which makes the implied subject of *dṛśé* different from the subject of the main sentence.

1.112.5[ab]. :—*yā̆bhī rebháṁ nívṛtaṁ sitám adbhyá*
údvándanam áirayataṁ svā̆r dṛśé |

Trans : " With which (aids), you delivered up the captured and fettered Rebha out of the waters and (delivered up) Vandana (also), to enable them to see (lit. 'to show them ') the sun. "

IX.48.4 :—*víśvasmā̆ it svā̆r dṛśé sā̆dhāraṇaṁ rajastúram* |
gopā̆m ṛtásya vír bharat ||

Trans :: "The Bird brought forth the guardian of Ṛta (Soma), who crossess through the aerial space, as (the) Common (Possession of all), to *show* (*dṛśé*) the light of heaven (*svàr*), to all ". Soma is himself here the sun[9] (compare—IX.10.5c; 23.2c ; 63.8 ; 65.1.etc.). So the Bird brought forth Soma (the sun) to show him to all. *víśvasmai* is (as explained above) the dative, which expresses the person for whose advantage the action of the infinitive ('Showing') takes place. *dṛśé* has here thus very plausibly the Causative Sense.

9. There is left over only one *dṛśé* passage thus (in the opinion of the writer) in which *dṛśé*, the dative infinitive of *dṛś*, 'to see' is neither used with a passive sense nor with a causative sense for the root *dṛś*.

X.57.4 :—*ā̆ te etu mánaḥ púnaḥ krátve dákṣāya Jīváse* |
jyók ca sū̆ryam dṛśé ||

Trans : " May thy mind (spirit) come (back) again for reflection, for resolve (i.e. for the exercise of its normal functions), for life and for looking on the sun yet longer. " Here be it noted there is no violation of any rule of syntax, becasuse the (implied) subject of *dṛśé* (namely, *mánaḥ*) is identical with the subject of the verb (*etu*) of the main sentence.

10. The writer has submitted constructions and renderings *different from the conventional ones* for a certain number of '*dṛśé*' pasages above, for the consideration of Vedic scholars who, I hope, will appreciate the difficulties from the point of view of syntax and grammar that face the conventional interpretations,—difficulties that have prompted the investigation in this Paper.

8. A Paper in which all such instances (in the *Ṛgveda*) of forms of the simple verb used in a causative sense also, is under preparation by the writer.
9. See Footnote No. 5 above.

ON SAPTÁ—IN THE ṚGVEDA

By

B. R. Sharma

On reflexion on Vedic passages where the word *saptá*— occurs and on reading the commentaries thereon by Yāska and Sāyaṇa we get the impression that *saptá*- in the Ṛgveda in places also meant *sarpaṇa-svabhāva*. But strangely enough no modern interpreters have ever taken notice of this interpretation of Sāyaṇa,so frequently resorted to in his commentary. For this new and apparently unconvincing interpretation, no doubt, Yāska was an implicit authority for Sāyaṇa. Since this etymology suggested by Yāska appeared primitive and erroneous no modern Vedic student gave any attention to it. We have therefore made an attempt to study this word more closely in all its contexts, and examine how far this etymology of Yāska can be supported from Vedic evidences.

Saptá— in the Ṛgveda is associated with a number of things. The sun is called *saptā'śva*, his horse is *saptá-nāman* and his car *saptá-cakra*.[1] Further he is said to possess *saptá hariíaḥ* ; to have *sapta raśmis* and hence he himself is known as *saptá-raśmi*.[2] The Adityas or the sons of Aditi, unlike the later tradition, are only seven, the eighth *Mārtāṇḍa* being a still-born was thrown away by Aditi and thus she went to the gods or to the Primeval Age with only *seven*[3] suns.

The rivers[4] are *sapta*— (with which the word is more frequently associated) and so are the *āpaḥ*, the *hotṛs* or *ṛtvijs*, the *ṛṣis* or *vipras*, the metres, *dhāmans*, *dhītis*, *pūrs*, *ratnas*, *maruts*, *dānus* and a number of other things.

In the hymn RV.I, 164 especially in verses 1-3 we find the word *saptá*— very freely being employed, which Geldner in his notes on RV. I, 164,3. calls a play or trick with the numeral seven (spielerei[5] mit der Siebnezahl.) The first a few stanzas of this hymn describe Time or the sun as the Supreme diety, where the word *saptá*— has been intentionally employed rather often by the Vedic bard

1. The car of Soma-Pūṣan also is said to be *sapta-cakra* and travel in the atmosphere as in every quarter. *Sómā-pūṣaṇā ròjaso vi-mānam| saptácakram rátham ávisvam invam| viṣūvṛtam mánasā yujyámānam tám jinvatho vṛṣaṇā páñcaraśmim||* RV. II, 40, 3.

2. Bṛhaspati (IV, 13, 3) Indra (II, 12, 12) Agni (I, 146, 1) and Viśva-rūpa, the demon, son of Tvaṣṭṛ (X, 8, 8) are also have the epithet *sapta-raśmi*.

3. *aṣṭáu putrāso áditer| ye jātās tanvas pári|*
devām̐ ùpa prait saptábhiḥ| párā mārtāṇḍám asyat||
saptábhiḥ putraír áditir| ùpa praít pūrvyám yugám|
prajāyai mṛtyáve tvat| pùnar mārtāṇḍám ābharat|| X, 72, 8-9.

4. *sapta-mātāraḥ, -jāmayaḥ, -dhenavaḥ. -svasāraḥ* and*-vāṇīḥ* are often interpreted by Sāyaṇa as seven rivers or metres.

5. *Der Rigveda*, Erster Teil, p. 228, vide f.n. 3.

causing a great confusion to the commentators. For instance the phrase *saptá-putram* in RV. I, 164, I has been interpreted by Yāska as *saptama-putram* and then taking *saptá*— as an equivalent or corrupt form of *sarpṭr* it has been again interpreted as *sarpaṇa-putra*.[6] The commentator of Nirukta further explains it as: *sarpaṇā hi tasya raśmayo muhūrtam apy-anava-sthāyino yasya putraḥ so'yam sapta-putraḥ*. Sāyaṇa, who closely follows Yāska, here adds one more explanation applicable to *param'śvara* as *sapta lokāḥ putrā yasya tādṛśam* (*parame'śvaram*). Again while interpreting *saptá*— in

saptá yuñjanti rátham éka-cakram / éko áśvo vahati saptá-nāmā /
tri-nā́bhi cakrám ajáram anarvám / yátre'mā́ víśvā bhúvanādhi tasthúḥ //
imám rátham ádhi yé saptá tasthúḥ / saptá-cakram saptá vahanty-áśvāḥ /
saptá svásāro abhí sáṁ navante / yátra gávām níhitā saptá nā́ma //
RV. I. 164, 2-3.

Sāyaṇa evinces quite uncertainty or his helplessness by explaining the word in a number of ways.[7] He infers that *saptá*— denotes seven different things. From these interpretations we can see how much confusion is caused by the frequent play of the word *saptá*— in these verses. Sāyaṇa makes these verses applicable to the year as to the sun and interprets them both ways whereas GELDNER remarks that the *rátha* (= sun) in I, 164,2 is the visible symbol of year or time[8] and that the seven horses who yoke themselves are none but the seven rays of the[8a] sun. Again he says the riders in the car are the seven priests, the seven horses the metres, the wheels the seven forms of sacrifices (*Agniṣṭomā'di-saṁsthā*) and lastly the sisters the seven *vāṇis*[9] (voices or tunes). According to Sāyaṇa also *rátha* in these contexts symbolizes the disc of the sun and *áśva* in *éko áśvaḥ* the sun. We should note here that *cakrá* is actually applied to the visible disc of the sun here and many

6. Nir. 4, 26.

7. *Sapta etat-saṅkhyākā aśvā yuñjanti...kim vastutaḥ saptane'ty āha. ekaḥ aśvaḥ sapta-nāmā eka eva saptā'bhidhānaḥ saptadhā namana-prakāro vā...yad vā...sarpaṇa-svabhāvāḥ sapta-saṅkhyākā vā raśmayaḥ saptaprakāra-kāryāḥ a-sādhāraṇāḥ paras-para-vi-lakṣaṇāḥ ṣaḍ ṛtavaḥ, ekaḥ sādhā-raṇa ity evam. athavā māsa-dvayātmakāḥ ṣaḍ aparaḥ adhika-māsā'tmkaḥ ity evam sapta-ṛtavo yuñjanti...sa cai'kaḥ a-sahāyaḥ aśvo vy-āpanaśīlaḥ ādityaḥ sapta-nāmā sapta-rasānām saṁ namayitāro raśmayo yasya tādṛśaḥ sapta-ṛṣibhiḥ stūyamāno vā*... I, 164,2.

...sapta raśmayaḥ...saṁ-vatsara-pakṣe ayana-ṛtu-māsa-pakṣa-divasa-rātri-muhūrtākhyāḥ saptā-vayavāḥ adhi-tiṣṭhanti...sapta-cakram. cakanāt caraṇāt kramaṇād vā cakrāṇi raśmayaḥ te sapta yasya rathasya tādṛśam...aśvaḥ vyāpana-śīlaḥ sapta vahanti...sapta-svasāraḥ svayam saraṇāḥ. svar ādityaḥ. tena sāritāḥ paras-paraṁ svasṛbhūtā vā sapta-saṅkhyākāḥ raśmaya ṛtavaś ca...a-sādhā-raṇaḥ paras-para-vi-lakṣaṇa-kāryāḥ ṣaḍ ṛtavaḥ sarva-sādhāraṇa ekaḥ iti saptatvam. gavām vācām... sapta sapta-vidhāni nāma namanāni sapta-svara-rūpāṇi ni-hitāni. sapta-svaropetaiḥ sāmabhiḥ stutyam...yad vā gavām udakānām sapta sarpaṇa-svabhāvāṇi nāma namanāni... RV. I, 164, 3.

8. Der (Sonnen) wagen als sichtbares Symbol des Jahres oder der Zeit.

8a. Die sieben Sonnenrosse, die I, 50,9 *svayukti* heissen. Es sind die sieben Strahlen der Sonne AV.7,107,1 ; vgl. 19,58,1 und die sieben Sonnen 13,3,10. *Sūrya* ist sein eigener Wagen-lenker und sein eigenes Wagen pferd. Vgl. AV.13,3,19. See GELDNER, *Der Rigveda*, f.n. under I,164,2.

9. Vielleicht der Opferwagen. Die Fahrenden sind die sieben Priester (8,60,16 ; 9, 114,3: 10.61,1) die sieben Rosse die Metren, die Rader die sieben Grundformen (mit anderem Bild 10,124,1 *saptátantum*), die Schwestern die *saptá vāṇīḥ* (die sieben Stimmen, 9,103,3) vgl. 8,59,3.4. *ibid.*f.n. under 1,164,3.

other similar contexts in the Ṛgveda.[10] In his book *Arctic Home in the Vedas* TILAK therefore rightly observes :—" It seems, however, that the wheel of the sun means the sun himself in the present legend. Thus in I. 175,4 and IV, 30,4 the phrase used is *sūryam cakram* evidently meaning that the solar orb itself is concieved as a wheel."[11] The nature of this wheel (=sun) is to roll on incessantly day and night[12] and still the wonder of this *cakrá* is that it never wears[13] out. This visible disc of the sun has been variously described as *rátha*, *cakrá*, and the eye of the sun in this hymn. The verse I, 164,12[14] says the sun who has gone to the lower half of the hamisphere and covered with *purīṣa*[15] becomes visible (vicakṣaṇa) when he mounts on the car which is *saptá-cakra* i.e. the car with constantly rolling wheels. The explanation of *saptá-cakra* given by the interpreters meaning seven seasons &c., is only a vain attempt to find out some meaning out of the phrase. In the whole of the Vedic literature no where is it said that the seasons are seven.

The verse I, 164,2 makes it expressly clear that the sun's chariot has only one wheel (*éka-cakra*) and that it is drawn by only one horse who is called *saptá-*,[16] a generic name for things that are on constant move, or who has, as Sāyaṇa explains it, seven names or seven bendings. In the immediate next verse we hear the same chariot being called *saptá-cakra* which is drawn by not one horse but seven. This naturally puzzled the commentators and hence Sāyaṇa comments on *cakrá* as rays ! From this apparently contrasting description we can escape only if we accept the alternate meaning of *saptá*— persistently recorded by the scholiasts, and interpret the phrase as " a chariot having rapidly and constantly rolling (*sarpaṇa-svabhāva*) wheels " and not " seven-wheeled." The wheel of the sun (=sun's disc) is indeed *sarpaṇa-svabhāva*, moving day and night without a stop, and so are his horses[17] i.e., rays which rapidly pervade the universe. The *svasāraḥ* in this verse are the celestail rivers which circulate the universe carrying the sun and the heavenly bodies can aptly be called *sapta*—. The passage ' *yátra gávām ní-hitā saptá nāma* ' in the verse is a little intriguing. We know the rays are generally called *cows* in the Ṛgveda and hence Bṛhaspati is described as *saptá-gu* (X. 47.4) as well as *saptá-rasmi* (IV, 50, 4). Would it therefore mean that the *cows* (gāvaḥ) of the car (i.e. rays of the sun) have been named as *saptá*—? It is indeed an apt

10. Vide my paper on "*Cakra in Brahmanical and Buddhist Scriptures*" contributed to the Buddha Vol. of the Bihar Research Society 1956.

11. B. G. TILAK, *Arctic Home In Vedas*, p. 321.

12. *várvarti cakrám pári dyā́m ṛtásya* 1,164, 11b ; *páñcāre cakrè parivártamāne* 1,164,13a.

13. *tri-nā́bhi cakrám ajáram ānarvám* 1,164.2a ; *dvā́daśāram na-hī́ tájjárāya* 1,164,11a ; *sá-nemi cakrám ajáram ví vāvṛta* I, 164,14a.

14. *páñca-pādam pitáram dvā́-daśā'kṛtim/divá āhuḥ páre árdhe purīṣíṇam/áthe'mé anyá úpare vi-cakṣaṇám/ sapta-cakrá ṣáḷ-ara āhur árpitam //*

15. *Purīṣa* means watery vapours or primeval substance out of which this universe was evolved or created. It may be said to be a synonym of *āpaḥ* with which the ether is filled.

16. The name of the sun's horse as we understand from RV.VII, 63,2 ; 66,14 is *Etaśa* but here he is named as *saptá*.

17. Sāyaṇa interprets *aśva* as *vyāpana-śīla* See 1,164, 2-3.

nomenclature for the rapidly pervading rays of the sun. Further it is interesting to note that the sun's rays have seven colours.

Besides the sun there are some other Vedic deities who are also described as *saptá-raśmi.* To wit, Indra in RV. II, 12, 12 is called *saptá-raśmi and* GELDNER in the notes below observes that *sapta-* in these places generally means[18] many. This clearly shows that he was not satisfied with its normal meaning at least in a few Vedic passages. Indra is further said to have yoked the sun's car having *saptá-raśmi.* (VI, 44,24). Bṛhaspati, when he was first born in the highest heaven of mighty splendour,[19] is described to have dispelled darkness and. here he is rightly called *sapta*[20] *raśmi.* Sāyaṇa correctly explains it as *sarpaṇa-svabhāva-tejo-yuktaḥ.* possessing the splendour that rapidly pervades. Only with such powerful splendour he can dispell the darkness in the world below. *Saptā'sya* in this verse again may mean 'with mouth wide open' and thus spreading his rays. GELDNER strangely enough takes, *sapta-raśmi* for seven reins (mit sieben Zugeln)! It appears he imagined Bṛhaspati with seven equine faces well-reined! Trita Āptya says his home is in that region wherefrom the *saptá-raśmis* diffuse, thereby meaning the highest heaven which is the home of *tejas* or *rocana* and where gods of light dwell. (I, 105,9.). The celestial Fire who floods the luminous realms of heaven (*víśvā divó rocanā́ paprivā́ṁsam* I, 146, I) is also a *sapta-raśmi* (I, 146, 1, Cp. II. 5, 2). Thus in the Ṛgveda many luminous diçties are said to be *sapta-raśmis* i.e., rapidly spreading their light.

The horses of the sun appear to be his early rays spreading in the horizon at dawn. These rays penetrate the darkness of the night and restore life to the silent world. The colour of these horses (=rays) is golden and they are quite young. Hence they are generally described as *saptá yahvī́ḥ harítaḥ* or simply *saptá harítaḥ* in the Ṛgveda. These young gliding horses carry the sun in his journey round the universe,—*tám sū́ryaṁ harítaḥ saptá yahvī́ḥ spáśam jágato vahanti-* (IV, 13, 3). His journey through the heaven is very picturesquely described in RV. I, 35, 2 as

ā́ kṛṣṇéna rájasā vártamāno / ni-veśáyann amṛ́taṁ mártyaṁ ca /
hiraṇyáyena savitā́ ráthenā, / devó yāti bhúvanāni páśyan //

These fast pervading rays are said to be quite distinct (*saptá śundhyúvaḥ* I, 50,9) as they are so at early dawn in the background of night's darkness. These golden fast gliding horses are often said to yoke themselves at dawn and carry the sun from the dark nether world on his day's weary[21] journey.

18. Die Siebenzahl ist hier die allgemeine Vielzahl, aber doch mit Rücksicht auf die sieben in b gewalt.
19. *bṛ́haspátiḥ prathamám jā́yamāno / mahó jyótiṣaḥ paramé vyoman /*
saptā́'syas tuvi-jātó rávena / ví saptá-raśmir adhamat támāṁsi // RV. IV, 50, 4.
20. The highest or the third heaven is always associated with brilliant light (*rocana*) where gods live. *yé nā́kasyā'dhi rocané diví devā́sa ā́sate.* I, 19, 6; cp. I,155,3. Read H. LÜDERS VARUṆA, pp. 66.
21. *saptá tvā haríto ráthe váhanti deva sūrya / śociṣkeśam vicakṣaṇa //* I,50,8.

The rays of the sun are not only five or seven, but innumerable. Hence the sun is actually called *sahasra-raśmi* in Sankrit. It is quite clear that *rátha, cakrá, áśva* or *harít* are all allegorical representations of the sun and his rays. The sun who travells round the universe requires a fast moving car and a horse. Hence his car and horse both are always qualified by *saptá-*, fast moving. But this meaning of *saptá-* was later forgotten and the expression was confounded with the homophonous word saptan meaning seven. When the numerical meaning is not quite suitable the modern interpreters conveniently say it means *many* !

SAPTÁ-SINDHU

This phrase has been interpreted by almost all Vedic scholars as seven rivers though they greatly differred with each other in their opinions as to the specific rivers which made up this number. While interpreting *saptá sravataḥ* in RV, I, 71, 7 Sāyaṇa observes : *imam me gaṅge ity asyām ṛci sapta hi nadyaḥ prādhānyena śrūyante.* He believes RV. X, 75, 5,

imám me gaṅge yamune sarasvati śútudri stómaṁ sacatā páruṣṇy ā |
asiknyā marudvṛdhe vitástayā'rjīkīye śṛṇuhy ā suṣómayā ||

records the seven rivers by name. The rivers addressed in vocatives here viz. Gaṅgā, Yamunā, Sarsvatī, Śutudrī, Paruṣṇi, Marudvṛdhā and Ārjikīyā are, according to him, the often mentioned *saptá-sindhus* and the other three in instrumental are the tributaries.[22] Śāyaṇa later in all places says : *saptá-sindhavaḥ gaṅgā'dyāḥ nadyaḥ* and then only gives the alternate interpretation. He, unlike the modern writers, is definite as far as the composition of rivers of this group goes and bases his presumption on Vedic evidences.

Now coming to the modern interpreters we find they all agree as far as six rivers viz. the five rivers of the Panjab (*Vitastā, Asiknī, Paruṣṇī, Vipāś,* and *Śutudri*) and the Indus are concerned but differ on the seventh. Max MÜLLER takes Sarasvatī[23] for the seventh, Ludwig Kubhā[24] and Lassen originally Kubhā and subsequently Sarasvatī.[25] After quoting the opinions of the above writers in his *Varuṇa* LÜDERS shows preference to the Sarasvatī on the strength of express evidence of RV. VII, 36, 6 where the Sarasvatī is described as the seventh and the mother of floods,—*sárasvatī saptáthī sindhu*[26]*-mātā.* Having recognised the difficulty of identifying the seven streams, KEITH observes :-"...The confusion of

áyuta saptá harítaḥ sadhásthā'dyā ím váhanti sū́ryam ghṛtā́cīḥ...RV. VII,60,3 ;
samáyā víśvam ā rájaḥ | saptá svásāraḥ suvitā́ya sū́ryam | váhanti haríto ráthe || RV VII, 66,15.
ā sū́ryo yātu saptā́śvaḥ kṣetram yád asyo'rviyā́ dīrghá-yāthe || RV.V, 45, 9ab, etc.

22. *otra pradhānabhūtāḥ sapta nadyas tad-avayava-bhūtā nadyas tisraḥ stūyante...*
23. *History of Ancient Sanskrit Literature* p. 12.
24. *Nachrichten* 15.
25. *Ind. Altertumsk.* 1², 3.
26. Zugunsten der Sarasvati lässt sich 7,36,6 anfuhren, wo die Flüsse angerufen werden : " Sarasvati, deren Mutter die Sindhu ist, als siebente Heinrich LÜDERS *Varuṇa* p. 153.

seven streams is particularly often found, doubtless bacause of the Vedic predilection for the number seven. It is probably needless to press the number for an exact identification especially as it is quite probably the idea came with the Indians from[27]Iran." TILAK believes that these are the aerial or celestial streams and have little or nothing to do with the rivers of the Panjab. He remarks : "...The Panjab, as remarked above, is a land of five rivers and not seven ; and though we might raise the number to seven by adding to the group *any* two insignificant tributaries according to our fancy, yet, the artificial character of the device is too apparent to justify us in holding the expression *saptá síndhavaḥ* was originally suggested by the rivers of the Panjab[28]......" Realizing all this confusion of *saptá síndhavaḥ* MACDONELL doubts whether '*saptá*' in this and several other contexts stands for a definite number at[29] all. So does HOPKINS in his paper "*Numercial Formula in the*[30] *Veda.*" ZIMMER too remarks that we should not press the number for an exact identification and that it may designate indefinite plurality[31] (unbestimmten Vielheit). In his *wörterbuch zum Rigveda* GRASSMANN gives "alle" (all) and "viel" (many) as the implied meanings of sapta- in compounds like *saptá-pada* and *saptá-budhna* respectively. LÜDERS is not satisfied with all this explanation. He holds that the *saptá-síndhvaḥ* designates a definite group of rivers especially because the expression denotes a definite country watered by a definite group[32] of seven rivers. The expression *hapta hindu*, the Iranian[33] equivalent of *saptá-sindhu*, further added to this confusion. The western writers believed that this expression referred to the Panjab. In support of this they point out RV. VIII[34], 24, 27 where *saptá-sindhu* is used, according to them, as a place name referring to the Panjab. We should remember here that the *hapta hindu* of the Avesta is actually a name of a mythical land encircled by the mythical rivers, whereas *saptá-síndhavaḥ* in the Veda simply means ever-flowing streams,--or assuming *saptá* in this context meant seven, only seven streams. In RV.VIII, 24, 27 referred to above *saptá síndhuṣu* are two separate words and as such they can mean at best *on the seven streams*, and if at all the phrase implied some territory where these streams flow it simly did so just as the idism *gaṅgāyām ghoṣaḥ* implied Sāyaṇa, therefore, correctly translates it *gaṅgā' dyāsu nadīṣu. yad vā sarpaṇa-śīlāsu nadīṣu. tat-kūleṣv ity arthaḥ.* GRIFFITH also renders it as: *on the seven streams* and, in the notes below adds: *in the land of seven streams*, whereas GELDNER strightaway renders it in one phrase as *im Siebenstromland* and this Siebenstromland was genarally believed to refer to the Panjab

27. *Religion and Philosophy of the Veda and Upanisads*, p. 74.
28. *Arctic Home in the Vedas*, p. 290.
29. *Hist. Skt. Lit.* p. 141.
30. *JAOS.* 16, 277 ff.
31. *Altindisches Leben*, p. 21.
32. ...Ich muss gestehen, dass mich diese Erklarung nicht recht befriedigt. Besonders der Gebrauch von *saptá síndhavaḥ* zur Bezeichnung eines bestimmten Landes lässt auf eine ganz bestimmte Gruppe von sieben Strömen schliessen. *Varuṇa* p. 158.
33. *Vendidad*, 1.18.
34. *yá ṝkṣād áṁhaso mucád | yó vāryāt saptá síndhuṣu |
vádhar dāsásya tuvi-nṛmṇa ninamaḥ ||*

which as it implies is a land of five rivers. As far as we know there is no Vedic authority nor any tradition which would warrant the assumption that *sapta-sindhu* meant the Panjab or the rivers of the Panjab and that *sindhu* in this phrase meant the Indus. Therefore we have to seek the explanation of *saptá-sindhu* in the Ṛgveda itself.

Sindhu, according to the Nighaṇṭu, is a synonym of river and Yāska etymologizes it as *sindhuḥ sravaṇāt* (Nir. V. 27) and *sindhuḥ syandanāt* (Nir. IX, 26) which mean simply a stream or river. The word is derived from *syand* to flow with the *uṇādi* suffix *dhu*[35]. It is highly doubtful, as we have pointed above, that *sindhu* in *sapata-sindhu* meant the Indus. Even in places where *sindhu* is independently used it does not always mean the Indus. After quoting the passages wherever this term occurs MUIR rightly observes : " It is however, difficult to say whether the Indus be always meant.[36]" Therefore we have to take the term in the plain sense 'stream'.

We have elsewehere made an attempt to show that the Ṛgvedic rivers, most of them, are primarily celestial.[37] Vedic people believed that *ā́paḥ* or what may be explained as 'perfectly incomprehensible continuous fluid' filled the space in the ether and circulated around the universe with a definite unchangeable velocity. These *ā́paḥ* were concieved also in the form of rivers and oceans in the Ṛgveda. The aerial circulation of this nebulous mass of matter (=ā́paḥ) carried the heavenly bodies along and regularized their course round the universe. This cosmic circulation was believed vitally essential for maintaining order in the universe as it controlled the planets, rain, seasons, and day and night. Vṛtrá or Vṛtrás in the Ṛgveda represent the obstructive and destructive univerasal force who stop the cosmic circulation of these ā́paḥ bringing in its track much miseries to the world. Indra, the god of light, kills the Vṛtrás and thus releases the pent up ā́paḥ to resume their course unhindered. This, in essence, is the Vedic legend connected with the waters in the Vedas.

The *sapta-sindhus* mentioned in the Ṛgveda represent these celestial streams which, whenever obstructed by Vṛtrá, Indra releases by removing the obstruction. The nature of these rivers, for that matter, of the cosmic waters (=ā́paḥ) is to flow incessantly around the universe. They are described in RV. I, 32 10 as :

á-tiṣṭhantīnā́m a-ni-veśanā́nām | kā́ṣṭhānām mádhye ni-hitam śárīram |
vṛtrásya niṇyám vīcaranty ā́po | dīrghám táma ā́śayad índra-śatruḥ ||

This hymn describes the manly deeds of Indra who killed Vṛtra and disclosed the waters (*áhann áhim ánv apas tatarda* I, 32, I). These cosmic waters are described as never-standing-still and flowing without a rest for ever onward burying the

35. *syandeḥ samprasaraṇam dhas ca.* Uṇādi Sūtra II.
36. *Original Sanskrit Text*, II, p. 342.
37. Read The Ṛgvedic Rivers. The Indian Historical Research Inst., *Silver Jubilee Commemoration Vol.* 1953, Bombay.

body of Vṛtrá who sank deep in darkness. The Ṛgveda again says that everything else that is in motion does take rest but the cosmic waters ever circulate and ever rises the sun (*vīśvam anyán nīviśate yád ejati / viśvā́hā́po viśvā́hó'deti sū́ryaḥ* X, 37, 2). Indra crosses the celestial ocean by means of these ever-circulating and unobstructed aerial streams[38] (X, 104,8) and so do the Asvins and many other Vedic deities. The phrase *sapta-sindhu*, and even *sindhu*, wherever it is not used in the proper sense nor referring to the terrestrial rivers in the Vedas, stand for these celestial streams. The ordinary rivers, when they reach their goal, will merge themselves in the ocean and lose their identity whereas these cosmic streams ever flow onward without a rest round and round the universe. Hence they are called *sapta-sindhus*, ever-circulating streams. This cosmic circulation of waters has become almost proverbial in the Vedas as it appears from RV. X. 37,2 referred to above. Therefore whenever *síndhavaḥ* meant these cosmic streams they are rightly qualified by *saptá-*(=*sarpaṇasvabhāva*), ever-flowing. These streams are often called *diváḥ saptá yahvīḥ*, young (=fresh and untiring) and ever-flowing streams of heaven who know *ṛta*, the universal order (I. 72, 8; III, I, 6)[39]. They are also called *saptá svásāraḥ* (I. 191, 14, VIII, 41, 2; 59, 4) *saptá mātáraḥ* (*síndhubhiḥ saptá-mātṛbhiḥ* I, 34, 8 ; *saptá svásāro abhí mātáraḥ* IX, 86, 36 ; etc.). *saptá jāmáyaḥ* (IX, 66, 8) and *saptā́po devīḥ* (X, 104,8).

Many Vedic deities, besides Indra, are connected with these celestial streams. Varuṇa, the monarch of waters, celestial as well as terrestrial, causes these streams to flow, and the *sapta-sindhus* stream down "into the jaws of Varuna as into a surging abyss" (*su-devó asi varuṇa yásya te saptá síndhavaḥ / anu-kṣáranti kākúdaṁ sūrmyaṁ suṣirā́m iva //* VIII, 69, 12: cp. VIII, 41, 2; 59, 4; etc.). The Aśvins in their car yoked by the gods with the unweary young horses cross these streams (VII, 67, 8). Agni, the celestial Fire, was concieved by the *sapta-sindhus* (*ékam gárbham dadhire saptá vā́ṇīḥ* III, I, 6), and hence they are known as his mothers (*dvitīyam ā́ saptá-śivāsu mātṛṣu* I. 141,2) who brought him up (*ávardhayan tsubhágam saptá yahvīḥ* III, 1.4). These streams are described as flowing upward in heaven to meet the celestial Fire (......*vayā́ iva ruruhuḥ saptá visrúhaḥ* VI, 7, 6). Soma is frequently associated with the celestial streams as it is evident from many a reference (*mṛjánti tvā nadyā́ḥ saptá yahvīḥ* IX, 92, 4 ; *táve'mé saptá síndhavaḥ* IX, 66, 6 ; *jajñānáṁ saptá mātáro vedhā́maśāsata śriyé* IX, 102, 4 ; see also IX. 66, 8 ; 86, 25 ; 36 ; X, 13,5).

Indra is more closely related with these celestial streams as their liberator and supporter. He expressly says that he supports the ever-flowing aerial streams, as also rivers on the earth, and waters in the dark nether ocean (X, 49,9)[40]. Thus

38. *saptā́'po devīḥ suráṇā ámṛktā / yā́bhiḥ síndhum átara indra pūrbhít /* RV.X 104,8 cp. *asmā́ ā́po mātáraḥ saptá tasthuḥ nṛ́bhyas tárāya síndhavaḥ su-pārā́ḥ //* RV.VIII, 96, I.

39. *svādhyo divá ā saptá yahvī rāyó dúro vyrtajñā́ ajānan /* RV I. 72.8ab *pavājā sim ànadatīr adabdhā / divá yahvir avasānā ànagnāḥ /* RV.III, 1,6ab.

40. *ahám saptá sravàto dhārayam vṛ́ṣā / dravitnvaḥ pṛthivyā́m sīrā́ ádhi / ahám árṇāṁsi vi tirāmi sukrátur / yudhā́ vidam mánave gātúm iṣṭáye //*

he is said to be the master of waters in all three regions. He breaks open the head of the great nether ocean (*arṇava*),[41] kills Vrtrá and lets loose the *sapta-sindhus* to resume their onward flow (X, 67,12).[42] Indra-Agnī are referred to as setting the *arṇava* (=nether ocean) in motion, which is *sapta-budhna*, i.e. having ever-flowing passages or channels, the openings of which are often obstructed (*jihmá-bāram*) VIII[43], 40, 5). The liberation of these obstructed aerial rivers is one of the manly deeds of Indra often depicted in the Ṛgveda. (*yó hatvā́'himáriṇāt saptá síndhūn* II, 12, 3 ; cp. IV 28, 1 ; 19, 3 ; 1, 32,12 ; 11. 12, 12.). These aerial streams in the Ṛgveda are called *sapta-sindhus* because they circulate round the universe for ever without a rest (á-niviśamānāḥ VII,[44] 49, 1).

II

So far we examined the passages where *saptá*—, if interpreted as *sarpaṇa-svabhāva*, gives sensible meaning. Now we are going to the passages where *saptán* is used in its plain numerical sense. The celestial Ṛṣis or sages mentioned in the Ṛgveda are seven,—*ṛṣayaḥ saptá daīvyāḥ* (X 130 7), who are deeply learned in the sacred lore (*ṛṣayaḥ saptá vīprāḥ* IX, 92, 2) and hence addressed as *saptá vīprāḥ* (IV, 2, 15,VI, 22, 2 ; etc.). They are further said to possess seven voices or tunes (*vā́ṇīr ṛ́ṣīṇām saptá* IX, 103, 3 ; *ṛ́ṣīṇām saptā dhītibhiḥ* IX, 62, 17 ; cp. III, 7, 1). We find also mention of seven priests or *ṛtvijs* very commonly mentioned in the Vedas (*saptá díśo nā́nā-sūryāḥ saptá hotā́ra ṛtvījaḥ / devā́ ādityā́ ye saptā́*......IX, 114, 3 ; cp. X, 63, 7 ; 35, 10, VIII, 60, 16 etc.). We also come across the seven *tantus* which Sāyaṇa explains as seven priests or seven forms of sacrifices such as *agniṣṭoma*, *atyagniṣṭoma*[45] &c., or seven metres or Vedic laudations.[46] Then there are seven *dhā́mans* which have been variously interpreted by Sāyaṇa. In RV,X, 122,3 (*saptá dhā́māni pariyánn ámartyaḥ*) they are, according to Sāyaṇa, seven stations i.e., worlds (*sthānāni pṛthivyā́'di—lokātmakan*) and accorindg to GELDNER the seven forms of sacrifice[47], for which he cites RV. IX, 102, 2, and IV, 7,5, as evidences where it is clearly expressed as *yajñásya saptá dhā́mabhiḥ* and *yájiṣṭham saptá dhā́mabhiḥ* respectively. But Sāyaṇa interprets the pericopes as : *Yajñasyadhārakaiḥ*...... *yad vā. sapta sarpaṇa-śīlair vasatīvaryā́'dibhir udakaiḥ* (IX, 102, 2) and as *sapta-bhiḥ dhāmabhiḥ tejobhiḥ* (IV, 7, 5). There are also seven *dhā́mans* of the earth

41. See my paper on the Concept of Ocean in the Vedas, *Journal of Baroda Oriental Institute*, II, No. 2, 1952.

42. *índro mahnā́ maható arṇavásya / ví mūrdhā́nam abhinad arbudásya / áhannáhim áriṇāt saptá síndhūn* /c.p. *índro mahnā́ maható arṇavásya vratā́m ināt áṅgirobhir gṛṇānáḥ*...X, III, 4.

43. ......*yā́ saptá-budhnam arṇavám jihmá-bāram aporṇuta' īndra íśāna ójasā*...

44. *samudrá-jyeṣṭhāḥ salilásya mádhyāt / punānā́ yanty ániviśamānāḥ /*......

45. *sapta tantavas tanitāraḥ karmaṇām vistārayitāro hotrā́'dyāḥ sapta vaṣaṭkartāro yasya. yad vā. agniṣṭomo' tyagniṣoma ukthyaḥ soḷaśī vājapeyo' tirātro' ptoryāma iti saptadhā vistīryamāṇam* X 124, I ; *sapta-saṅkhyākā mātṛbhūtā agniṣṭomā́'di-saṃsthā yasyām bahavanti sā. yad vā. sapta saṅkhyākā mātaraḥ karmaṇām nirmātāraḥ kartāro hotrā́dayaḥ santi* X, 107, 4.

46. *sapta-tantum saptabhiś chandomayaiḥ stutibhir vistṛtam* X, 52, 4 ; *sapta tantūn tayamānān sapta-saṃsthān*......*yad vā. sapta chandā́ṃsi*. I,164,5.

47. ,*saptá dhā́māni pariyán* entspricht dem *ṛtásya dhā́ma ví mime purū́ṇi* in 10,124, 3b. Die *saptá dhā́ma* sind die sieben Formen des opfers nach IX,102,2; IV, 7,5. Der Rigveda, f.n. under X, 122,3.

(*pṛthivyāḥ saptā*[48] *dhāmabhiḥ* I, 22, 16) and one hundred and seven *dhāmans* (=species) of herbs (X, 97, 1) mentioned in the Ṛgveda. From this it appears that *dhāman* is used in the Ṛgveda in three different meanings—form, region and species.

There is mention of seven *ratnas*, jewels or treasures, which are possessed by Agni or Soma-Rudra (*dámedame saptá rátnā dádhāno'gniḥ* V, 1,5 cp. VI. 74, 1). MACDONELL believes that saptá — in this context means not seven but[49] all. These seven jewels have, however, become quite familiar in later mythology particularly Budhist. They are enumerated in the Bṛhad-Devatā[50] by name as the divine treasures belonging to a *cakra-vartin*. We find them also mentioned in the[51] Mahābhārata. In Budhist canons they are often mentioned as precious belongings of a Cakravartin or Universal[52] Monarch.

There are *pūrs* or strongholds of Dāsas which are also said to be seven (*éṣām índraḥ sáhasā púraḥ saptá dardaḥ* VII, 18, 13; cp. 1, 63, 7). They are also described as autumnal (*saptá yát púraḥ śárma śāradīr dárt* I, 174. 2 ; cp. VI, 20, 10). What these strongholds actually are we cannot say. There are again seven *dānus or demons* whom Indra slays (*ā dárṣate śávasā saptá dānūn* X 120, 6) and hence Indra is called *saptahán* (*ahám sapathā*......X, 49, 8), killer or destroyer of seven, may be forts or demons.

There are also seven steps (*saptá*.'....*padāni* X, 8, 4), which have later become the symbols for firm bonds of firiendship, seven assemblies (*saptá saṁsádaḥ* VIII, 92, 20), and seven barriers (*saptá maryādāḥ* X, 5, 6) mentioned in the Ṛgveda.

Agni is a Vedic deity who possessed many things in seven. He is said to have seven ruddy sisters (*saptá svásṛr áruṣīr vāvaśānáḥ* X, 5, 5), seven sons (*saptá-putram* 1, 164, 1), seven tongues (*hótāram saptá juhvo yájiṣṭham* I, 58, 7 ; *vahnayaḥ saptá-jihvāḥ* VII, 6, 2) ; seven rays (*mūrdhānam saptá-raśmim gṛṇīṣe* I, 146, 1 ; *ā yásmin tsaptá raśmáyas tatā yajñásya netári* II, 5, 2) and is called *saptá-mānuṣah*[53] (VIII,39,8). *Sapta* as far as Agni is concerned in the above contexts can be explained as *swiftly moving or spreading* (*sarpaṇa-svabhāva*) since that is the nature of the flames of fire. Yāska has actually interpreted the expression *saptá-putram as sarpaṇa-putram* (Nir. 4, 26).

48. Sāyaṇa : *saptabhir gāyatrādibhiś chandobhiḥ* ; Geldner :......die drei Erden, Luftreich und die drei Himmel.

49. Encyclopædia of Rel. and Ethics, Vol. 7, p. 553.

50. *cakram ratho mahīr bhāryā bhūmir aśvo gajas tathā / etāni sapta ratnāni sarveṣām cakravartinām / / Bṛhad-Devatā* V, 123.

51. See MBH 1,16,33-37.

52. Lakkhaṇa Suttānta, D. III.2.177,29.

53. GRIFFITH renders the phrase as "Lord of the sevenfold race of men" and GELDNER as a god familiar or known to the seven races of men (Der Gott, der bei den sieben Menschenstämmen bekannt ist). But we have never heard the races of men to be seven in RV. There are of course pañca-janas, pañca-kṛṣṭis etc, mentioned in the Ṛgveda but these expressions too do not necessarily refer to any human race. See my paper on *Panaca-janas in the Vedas* contributed to the *Sardha-śatābdi* Vol. pp. 244 ff. BBRAS, Bombay.

The Maruts are said to be seven times seven or they form seven troups, each troup consisting of seven (*saptá me saptá śākinaḥ* V, 52, 17; cp. VIII, 28, 53). There are references in the Ṛgveda where the hymn is said to have seven heads (VIII 51, 4 *arkám saptá-śīrṣāṇam* ; X 67,I *imām dhiyam saptá śīrṣām*).

We have seen above a number of things which are counted in seven. But nowhere in the Ṛgveda do we meet with an explanation which would specify or give details of what these seven are. The commentators, therefore, try to explain the number in each case as they fancy. One thing, however, becomes clear that the Vedic bards have been very fond of the number seven. There are verses where this number has been freely used such as :

saptānām saptá ṛṣṭáyaḥ / saptá dyumnāny eṣām / saptó ádhi s'rīyo dhire //
RV.VIII, 28, 5

and a few more which perplex a commentator. The Vedic poets take pleasure in saying things multiplied by seven and thus they would say three times seven, seven times & c., instead of saying straightway tewnty-one, forty-nine etc. For instance, the rivers and waters are said to be three times seven (*tríḥ saptá sasrā́ nadyò mahī́r apáḥ* X, 64, 8). So, are the cows (*trír asmai saptá dhenávo duduhre* IX, 70, 1 ; Cp. IV, 1,16 ; VII, 87, 4 ; IX, 86, 21); the ridges of the mountains (*tríḥ saptá sānu sáṁhitā girīṇām* VIII, 96, 2); the sparks of fire (*tríḥ saptá viṣpuliṅgakāḥ* I, 191, 12); the secret words (*tríḥ saptá yád gúhyāni tvé it padā́* I, 72, 6); the warriors (*tri-saptáiḥ śūra sátvabhiḥ* I, 133,6); the steps of friendship (*tríḥ saptá sákhyuḥ padé* VIII, 69, 7) and the treasures or jewels (*té no rátnāni dhattana trír ā́ sā́ptāni sunvaté* I, 20,7). Thus also the rivers are said to be thrice seven and seven (*saptá-sapta tredhā́* X, 75, I), the gods five times seven and seven (*páñca devā́ṁ ṛtūśaḥ saptá-sapta* X, 55,3,), the cows three times seventy (*tisṝṇām saptá-tīnām* VIII, 19, 37) and also thrice seven times seventy (*usrā́s tríḥsaptá saptátīnām* VIII, 46, 26) and. the horses seven and seventy (*ádhinnvatra saptatím ca saptá* X, 93,15).

Perplexed by the frequent use of *sapta-* and also having not been able to explain it in each context the modern writers simply say that it is a conventional number without much significance or that the Vedic bards had a prediliction for the number seven. It is difficult to explain the numeral in its several applications enumerated above without a deeper knowledge of Vedic mythology and tradition which is long lost. The number seven is sacred to Hindus as it is to Buddhists. The Vedic bards will not use the word so frequently without definite implications. We are only at present at a loss to understand and explain it. Perhaps future research in Vedic and post-Vedic literature may throw more light on the problems resulting in solution of so many riddles so far not satisfactorily dealt with.

III

We have another word *sápti*, derived from the same root as *saptá-* and also bearing the same meaning in the Ṛgveda. This, according to the Nighaṇṭu, is a synonym of horse and Yāska etymologizes it as *saraṇa* (Nir. 9, 3, (=sarpaṇa-śīla). Depending on this explanation Sāyaṇa often renders the term as *sarpaṇa-svabhāva*. From this it appears that *saptá* and *sápti* were regarded to have been derived from a common root viz. √*sṛp* and also as synonyms by the scholiasts.

In the Ṛgveda the horse that was used to plunder an enemy and run away with the booty, to run a race, or for quicker conveyance, is called *sápti*. *vāja* (=war-booty or prize) and *sápti* (=a horse that runs with lightning speed) are, more often than not, associated with each other and they form in several places even as a simile to elucidate things in the[54] Vedas. Because of this association of a fast running horse with prize in race and booty in war he is called vājin, vājayu, and also vājambhara i.e. prize winner or bringer of war[55] booty. Thus *sápti* is an epithet for a horse that can run with lightning speed continuously without any feeling of fatigue.

Indra is invoked to come in a car yoked with these sáptis, the fast gliding coursers, so that he can reach the place[56] of sacrifice at once. The fast travelling Aśvins also are besought in identical[57] terms. The swift moving Maruts are expressly significantly addressed as *sáptayaḥ* (*yūyám sakhāyaḥ saptayaḥ* VIII, 20[58] 23 ; *prá yé śúmbhante jánayo ná sáptayo yāman rudrásya sūnávaḥ sudáṁsasaḥ* I, 85,1.). These *sáptis* or race horses are described as ;

ā vo vahantu sáptayo raghuṣyádo / raghu-pátvānaḥ prá jigāta bāhúbhiḥ //
RV. I 85, 6.

" Let your swift gliding coursers bear you hitherward with their fleet pinions."
Griffith.

The epithets *raghu-syadáḥ* and *raghupátvānaḥ* only paraphrase what was implied by the term *sápti*. *Sápti* has also been used as an adjective of horse in the sense of fast running in RV. VIII, 46, 7(*tám ā vahantu sáptayaḥ purū-vásum mádāya hárayaḥ sutám*) and III, 35, 2 (*ūpājirā puru-hūtāya sáptī hárī ráthasya dhūrṣv ā yunajmi*). There is another adjectival form viz. *sáptyam* derived from the same root and meaning *to be reached or approached* (sarpaṇīyam).[59]

54. *Vā́je nāśvāḥ sáptīvanta évaiḥ* X, 6,6b ; *sáptir ná vāyjaúḥ* IX, 107, 11 ; *vājī ná sáptiḥ* IX 96, 9 : *abhī vājam sáptir iva* IX, 96, 16 ; *hitó ná sáptir abhī vājam* IX, 70, 10 ; *sahasríṇam vājam átyam ná sáptim* 111,22, I ; *śravasyávo vājam cakānāḥ sáptir ná ráthyo*...11,31.7.
55. *pári sáptir ná vājayúḥ* IX,103,6 ; *agníḥ sáptim vājambharám dadāti* X, 80,1 ; *máryam ná vājinam hitám / sáptim ná vājayāmasi* VIII, 43, 25.
56. *juṣāṇá indra sáptibhir na ā gahi* VIII, 13, 13 ; *arvā́ñcam tvā sáptayo' dhvaraśríyo váhantu sávanéd úpa* VIII, 4,14 ; cp. VIII, 33,8 ; 46, 7 ; III, 35,2.
57. *arvāncā vām sáptayodhvaraśríyo váhantu sávanéd úpa* 1,47,8 ; cp. VI, 62, 4.
58. Sayana : *saptayaḥ saraṇa-śīlāḥ*.
59. *sá mātā pūrvyám padám tád varuṇasya sáptyam* VIII, 41,4.

Thus we find three words in the Ṛgveda viz. *saptá-*,*sápti* and *sáptya* all were believed to have been derived from the root √*sṛp* or its synonym √*sap*. Among these *sápti* has been used as a noun as well as an adjective, though apparently it formed with the abstract suffix -ti. Yāska seems to have treated it as an abstract noun when he interprets it only as *saraṇa* (Nir. 9, 5). But it is obvious that the word in the Ṛgveda meant fast gliding or running, and also a courser of lightning speed.

IV

From the foregoing discussion we understand that *saptá-* and its cognate forms were believed to have been derived from √*sṛp* or from a root having the meaning of √*sṛp*. We have an adjectival form directly derived from √*sṛp* as *sṛpra* in RV.[60] IV, 50,2 meaning moving or extending (*sarpaṇa-svabhāva*. Sāyaṇa). Sāyaṇa seems to have taken *saptá-* as a cognate form of *sṛpra* which no serious student has so far taken notice of. The western interpreters connect the term *sápti* with the root √*sac* to accompany, to go together with[61] others, assuming it to have been derived from √ *sap= √sac because the root √*sap* now in vogue does not convey this meaning. According to the Dhātupāṭha √*sap* means relation (*samavāya*) or clear understanding (*samyag avabodha*) and it is clear that *saptá-* or *sápti* is not derived from this root. MACDONELL in his *Vedic Grammar* says √*sap* means to serve, and GRASSMANN in his WÖRTERBUCH ZUM RIGVEDA to venerate[62], to drive. But the latter, however, assumes *sápti* to have been derived from √ *sap having the meaning of √*sac*. Thus *sápti*, according to GRASSMANN and also GELDNER[63], means a yoked horse. But we believe *sapta-*, *sapti*, and *sáptya* are actually derived from √*sṛp* and due to the influence of Prakrit the vocalic liquid gave way to *a* in these vocables. We have ample examples in Sanskrit showing the phonetic change that has taken place in its voacbles due to Prakṛtic tendencies, to wit *kaṭa* from *kṛta-* *uḍupa* from *ṛtupa* & c. But *saptá-*though it is a synonym of *sṛpra*, is not a phonetically modified word of *sṛpra*. For this we have to look on to Yāska who says *saptá-* in the Ṛgveda means actually *sṛptā* or *saṅkyā* and, *sṛptā* he further renders as *sarpaṇa-svabhāva*. Thus according to him *saptá-* has two meanings viz., rapidly moving and ' seven '. From the rendering of the term as *sarpaṇa-svabhāva* we can conclude that Yāska assumed that *saptá-* was a corrupt or altered form derived from √*sṛp* with the active primary suffix *-tṛn* meaning *tat-śīla*. The agent nouns are formed in sanskrit with two different suffixes *-tṛc* and *-tṛn*, though both are homophonous in formation, the former being employed in the pure sense of doer (=*kartā*) and the latter habitual doer (tac[64]-chīla-kartā). So in *saptá-* the primary suffix is *tācchīlye tṛn*. Otherwise Yāska

60. *Pṛṣantam sṛprám ádabdham ūrvám bṛhaspate rákṣatād asya yónim.*
61. See GRASSMANN, *Wörterebuch zum Rigveda*, p. 1444.
62. *ibid.* col. 1472.
63. *Der Rigveda* 1, 85,6, 111,35,2 etc.
64. *ā kves tac-chīla-tad-dharma-tat-sādhu-kāriṣu* ; (III,2,134) ; *tṛn* (III,2,135) Pāṇini.

cannot render it as *sarpaṇa-svabhāva*. Similarly he believed *sápti* to have been derived from the same root with the primary suffix -ti and he thus rightly rendered it as *sarana*, i.e., *sápti*, according to him, was a corrupt or phonetically altered form of *sṛpti*. Now the agent noun with the primary suffixes -tṛc and -tṛn is not *sṛptā(f.)* (which is actually the past participal of √*sṛp* and cannot mean *sarpaṇa-svabhāva*) but *sraptā*[65] or *sarptā*. So unless we change the reading *sapta sṛptā saṅkhyā* as *sapta sarptā* (or *sraptā*) *saṅkhyā* the passage will indicate no proper meaning. It is clear rhat the text, as it is, is very vague. The commentator, however, attempt to make sense out of it by interpreting "*sapta sṛptā saṁkhyā* as *ṣaḍbhyaḥ sakāśāt* i.e. a number moved from six! But it is obvious that this interpretation is wrong for Yāska himself explains *sapta-putram* as *saptama-putram. sarpaṇa-putram iti vā* and to authenticate his explanation he says *sapta sṛptā saṅkhyā saptā'ditya-raśmayaḥ iti vadanti*. From this it is evident that the commentary is self-contradictory. What Yāska actually means is that *saptá* according to scholars has three meanings (1) *sarptā* (=*sarpaṇa-svabhāva*), (2) saṅkhyā, a number i.e. seven and (3) the rays of the sun (*sapta*[66] *sarptā saṅkhyā. saptā'ditya-raśmayaḥ*. Nir 4,26). Sāyaṇa has interpreted this term according to the context in all these three meanings. Therefore we strongly believe the above printed text of Nirukta to be corrupt and unless it is changed as suggested above it will have no relevent meaning.

Now the question is whether we can support our argument with the Vedic evidences. We have a solitary example in the Ṛgveda where the vocalic liquid *ṛ* changed to *a*. The word in question is *sap-sarāsaḥ* (RV.I. 168,9) meaning inspiring awe and where *sap-* is an altered form of *sṛp-* with Prakṛtism[67]. We have also examples where the semi-vowel *r* is dropped before a consonant when another *r* follows. For this *cakrat* and *cakrīyas* are the examples cited by MACDONELL in his VEDIC GRAMMAR[68]. These words are derived from the root √*kr* and hence they ought to have been *carkrat and *carkrīyas like carkarmi. But here, we see, the first *r* is lost when the words are formed. In the present case the root is √*sṛp* (or √**sarp*) and the words in question are *sarptṛ* and *sraptṛ* We may also similarly argue that the first *r* in this cluster of consonants is lost when the liquid *r* follows it may be due to Prakritism or otherwise. Only thing is Prakritism is not carried out to perfection in sapta-for obvious reason or it might have been sanskritized later. There are certain formations in the Vedas which bear testimony for what is called Prakṛtic assimilation or tendencies that worked out to shape them. These formations may have been taken back to Sanskrit regenerated to fit in its vocables from Prakṛt. For instance *ducchunā* (< dus + śunā), dūḷabha (<*dūḍabha < durdabha), titau (< titapū) uḍupa (< ṛtupa) etc. clearly show to what

65. *anudāttasya cardupadhasyānyatarasyām* (VI, 1,59), Pāṇini. See Sidhāntakaumudi.
66. The reading suggested by the writer. The printed texts read ; *saptasṛptā*.........
67. SURYAKANTA, *A Grammatical Dictionary of Sanskrit* (Vedic), See under *sṛpra*, p. 272.
68. MACDONELL, *Vedic Grammar*, p. 56.

extant Prakṛtism has influenced their formations. Some of these were adopted into early Sanskrit while they were in the process of being transformed into Prakṛt. Therefore we may presume that *saptá*-which meant rapidly moving assumed its form in this way : sarptṛ > *saptṛ > sapta or it may be assumed that the word is derived from the root *sap < √sṛp, the latter being changed to the former due to Prakrit influence as is evident from the example *sap-sarāsaḥ* (RV. I,168,9). This *sapta-* was later confounded with the numeral *saptan* in the Ṛgveda.

O.I.A. SIBILANTS IN KĀMRUPI

By

UPENDRA GOSWAMI

§1. The O.I.A. sibilants in Kāmrupi as in the st. Assamese have lost their sound values and have acquired different sound values in different positions of a word. In compound consonant groups the sibilants have—*s*—sound. e.g. *kisna. kista* < kṛṣṇa, *bistu* < viṣṇu, *χāsro* < śāstra, etc.

The single sibilants in initial position have generally become χ—[1]. For example :

Xih : 'ear of corn ' (śīrṣa). cf. Guj. *śīś* 'head.'
Xikkhit : ' educated ' (śikṣita).
Xel : 'spear ' (śalya).
Xitalā : ' the goddess of 'small pox ' (śītalā).
Xikā : ' a kind of swing made of rope to carry something ' (śikyam). cf. Guj. *śīkū.*
Xiŋeri : ' water chestnut ' (śṛṅghāṭaka). cf. Guj. *śīgɔṛū.*
Xāri : ' a garment for women ' (śāṭa).
Xār : ' the solid interior of a tree ' (sāra)
Xidhā : ' uncooked eatables provided to a guest ' (siddha). cf. Guj. *sīdhū* ' cooked provisions.'
Xār : ' bull ' (ṣaṇḍa).
Xoitto : ' true' (satya).
Xindhi : ' a hole made in a wall by a thief ' (Sandhi). cf. Hin. *sendh*, Bg. O. *sindh.*
Xolla : ' sixteen ' (ṣoḍaśa).

§2. Initially Śv— , Sv— . generally become χ—. e.g.

Xohur : ' father-in-law ' (śvaśura).
Xāhu : ' mother-in-law ' (śvaśrū).
Xetā : ' pale ' (śveta).
Xur : ' tune ' (svara).
Xapān : ' dream ' (svapna).
Xad : ' taste ' (svāda).
Xayāmbar : ' a form of marriage ' (svayaṁvara).

§3. In certain words *s*— sound in heard is place of O.I.A. sibilants. Examples :

Suār : ' a term of abuse ' (śukara).
Saznā : a kind of tree ' (śobhāñjana).
Sāitān : ' a kind of tree ' (saptaparṇa, M.I.A. sattavaṇṇa).
sārā : ' whole ' (sarva). cf. *sārā rāti* 'the whole night '. cf. M. *sārā*, Hin. *sārā.*
sapā, sop : ' whole, all ' (sarva). cf. *sop kām* ' all work '; *sapā rāti* 'the whole night, ' cf. Hin. *sab.*
Sidhā : ' straight, honest' (siddham.) cf. Guj. *sīdhū*. Hin. *sīdhā.*

1. It is a voiceless velar fricative produced from a bit lower position than the position *X* and friction is also less.

Some instances with *s*—sound of the sibilants of the following combinations are also found.

Sv > *s* - :
Sorup : ' real nature ' (svarūpa).
Sabhāb : ' nature, character. ' (svabhāva).
Sarāg, *Xarāg* 'lightning, sky ' (svarga).
Śv - - > *s* - : *Sās* : 'breath ' (śvāsa).
Śm - - > *s* — : *Sakhān* ' cremation ground ' (Śmaśāna).
Śr > *s* - : *senni* ' class ' (Śrenī).

Other examples :

Siri : ' prosperity ' (Śrī). cf. *siri-biddhi*.
Sisti : ' creation ' (sṛṣṭi).
Silān : ' bath ' (snāna).
Salākh : ' verse ' (Śloka).
Sarān : ' remembrance . (Smaraṇa).
Sāur : ' remember ($\sqrt{\text{smṛ}}$).

In numerals, in the majority of them -*s*- sound is heard in place of O.I.A. sibilants in initial and non-initial positions. For example :

ekois : ' twenty one. '
bāis : ' twenty two '
Posis : ' twenty five.'
Sābbis : ' twenty six. '
tris : ' thirty. '
Sáintris : ' thirty six ' etc.

Some numerals have developed two forms.

das, *dah* : ' ten ' (daśa).
bis : ' twenty ' (viṁśati).
bihā : ' a bundle of twenty.
the word for hundred is *Xa* (śata).

" The *s* -sound of Ś in numerals in most probably an imported one and due to Hindustani influence."[2]

Another thing to be noted here is that Kāmrupi possesses a large number of perso-Arabic words for day-to-day use. In those words *s* sound in generally heard in place of the original sibilants. A few of them have been mentioned here for comparison :

muskil : difficult ' (Ar. muśkil).
sorik : ' partner ' (Ar. śarik).
sakh : ' luxury, style ' (Ar. śank).
saddār : ' a head man ' (per. Sardar).
khusi : ' will, pleasure ' (per. khuśī). e.t.c.
but *Xatrānsi* : ' a kind of carpet ' (per. śatranji).
Xud : ' interest ' (Per. Sūd).
Xastā : ' cheap ' (Hin. sastā).

2. B. K. Kakati, *Assamese Its Formation and Development*, (First edition, Gauhati, Assam 1941), 110.

§4. Initially the change of the sibilants to *h*—is not common. But we meet with these words :

Xiŋ : ' horn of an animal ' (śṛnga).
but *hiŋkā* : ' to pierce with the horn.'
hul : ' a small thorn or a pointed thing ' (śūla). cf. *hul* < Malayan *hulat* Dr. KAKATI.

The change of initial *ś*—to *h*—is also noticed in Ap. cf. ***hulai*** < śūlayati.[3]

§5. Sibilants in non-initial positions.

—ś—>.– *h*––,—*h* :

āhār mur khā : ' a term of abuse ' (āśā).
āhu : as in *āhu sāul* ' boiled rice ' (āśu)
rāhi : ' an astrological house ' (rāśi)
rāhāk : ' extra, excess, plentiful ' (rāśi)
Xahā : ' hare ' (śaśaka).
ahak : ' a kind of flower ' (aśoka).
ākāh : ' sky ' (ākāśa).
ākroh : ' greed ' (ākrośa).
Zah : ' glory, because of ' (Yaśas).
cf. *tār zahot* ' because of him.)

—Ś—>—*kh*—,—*kh* :

aŋkho : 'part, share ' (aṁśa).
ākhā : ' hope ' (āśā).
dakhā : ' condition ' (daśā).
sakhān : ' cremation ground ' (Śmaśāna).
dakhabhuzā : 'a goddess ' (daśa bhujā).
nākh : ' destroy ' (nāśa).
Palākh : : 'a kind of tree ' (Palāśa).
Parkhu : ' a kind of axe ' (Paraśu).
bhekh : ' guise, garb ' (Veśa).
ganekh : 'a god ' (ganeśa).

—ṣ—>—*h*—, *h* :

āihā : ' having the smell of a fish ' (āmiṣa).
bih : ' poison ' (viṣa).
doh : ' offence ' (doṣa).
mūih : ' buffalo ' (mahiṣa).
nimih : ' the twinkling of the eye' (nimeṣa).

—ṣ—>—*kh*—,—*kh* :

rikhi : ' sage ' (ṛṣi).
ukhār : ' dry, hard ' (ūṣara).
okhud : ' drug ' (auṣadha).
bhākhā : ' language ' (bhāṣā).
purukh : ' male human being, generation ' (Puruṣa).

—S—>—*h*—,—*h* :

bāhi : **' stale ' (vāsita).**
rahāttal : **' hell ' (rasātala).**
rak **:' juice ' (rasa).**
Xah : **' a crop ' (sasya).**
oibbāh : **' habit ' (abhyāsa).**

3. G. V. TAGARE, *Historical Grammar of Apabhraṃśa.* (Deccan College Dissertation Series No. 5, Poona, 1948). 54(7).

—S—>—*kh*—,—*kh*, :

okhur : ' naughty, a very strong and courageous person, (asura).
bokhu : ' name of a person ' (vasudeva).
Xaŋkhār : ' world ' (saṁsāra).
hiŋkhā : ' malice, enemity ' (himsā).
Xoinnekhi : ' an ascetic ' (sanyāsī).
Koilākh : ' the mountain abode of siva (kailāsa).

In a few words in non-initial position also —*s*- sound is heard. e.g. *phās* ' noose ' (Pāśa) ; *hobis* ' fasting for some holy occasions ' (haviṣya).

§6. Kṣ has generally acquired the following sound values in kāmrupi.

Kṣ>*kh* :

sokhu : ' eye ' (cakṣu).
khai : ' decrease, decay ' (kṣaya). Ap. *khaya*.
Pākhā : ' wing ' (Pakṣa).
khur : ' razor ' (Kṣura).
ākhār : ' letter of the aplhabet ' (akṣara).
khen : 'chance ' (kṣana). Ap. *khaṇa*.
khār : ' alkali ' (kṣāra). Ap. *khāra*.

Kṣ>*kkh* :

xikkhit : ' educated ' (Śikṣita). Ap. *sikkhia*.
loikkho : ' aim ' (lakṣya). Ap. *lakkha*.
loikkhan : ' sympton ' (lakṣana). Ap. *lakkhaṇa*.
roikkhā : ' relief ' (rakṣā). Ap. *rakkha*.
dokkhin : ' south ' (dakṣina). Pkt. *dakkhina*.

Kṣ.>*kk* : *rāikkah* : ' demon ' (rākṣasa).

Kṣ>*Z* :

Zare : ' oozes out, trickle ' (kṣarati). Ap. √*jhara*.
Zāmre : ' subsides as a swelling ' (kṣāma).

Kṣ>*ch*>*s* :

suri : ' knife ' (kṣurikā). Ap. *churia*.
sitā : ' stain ' (kṣipta).

Kṣ>*h* : *lāhā* : ' lac ' (lākṣā).

§7. Kṣm>kkh, kh :

lokkhi : ' the goddess Lakshmi ' (lakṣmi).
lokhindār : ' hero of the Manasa legend ' (lakṣmīndra).

THE VOCABULARY OF YAŚASTILAKA OF SOMADEVASŪRI

1. Words peculiar to Lexicons only

By

E. D. KULKARNI

M. BLOOMFIELD in his paper on '*Some Aspects of Jaina Sanskrit*' proposes to classify the vocables of Jaina Sanskrit into five categories according to some predominant tendencies represented by them.[1] A. N. UPADHY's classification as given in his introduction to *Bṛhatkathākośa* slightly differs from that proposed by BLOOMFIELD.[2] The author of the present paper intends to give a classification different from those previously mentioned in view of the requirements of the text *of Yaśastilaka* composed by Somadevasūrin. It is a Jaina romance in which philosophical and religious doctrines are strung together and numerous rare and unfamiliar words of lexical interest are used. Many of these words are not found elsewhere in Sanskrit Literature. In this way *Yaśastilaka* serves as an exceptionally fruitful source of Sanskrit Lexicography.[3] As a matter of fact Somadeva distinctly refers to this aspect of his literary efforts when he says that he has resuscitated words that had been swallowed by the crooked monster of time.[4] He further states that he has used not only long forgotten words but he has collected also many words lying hidden at the bottom of the ocean of *Śāstras*.[5]

The vocabulary of *Yaśastilaka* is classed, therefore, into the following categories.[6]

(1) Vedic words
(2) Words recorded only in Lexicons.
(3) Words quatoable only from Grammatical works.
(4) Words having no references in the published dictionaries
(5) New words not so far recorded in the published dictionaries.
(6) Technical terms.
(7) Words peculiar to Jaina Literature.

1. *Festschrift*, Jacob WAKERNAGEL
2. *Bṛhatkathākośa*, Bhāratīyavidyābhavan, Bombay, 1943, under Siṁghī Jaina Granthamālā.
3. *Cf.* Handiqui, *Yaśastilaka and Indian culture*, pp. 16-7.
4. *Cf. arālakālavyālena ye līḍhāḥ sāṁpratam tu te / śabdāḥ śrīsomadevena protthāpyante kim adbhutam /* 2.266.13-14.
5. *uddhṛtya śāstrajaladher nitale nimagnaiḥ paryāgatair iva cirād abhidhānaratnaiḥ / yā somadevaviduṣā vihitā vibhūṣā vāgdevatā vahatu saṁprati tām anarghām.* 2.266.15-18.
6. A separate paper on each of these topics will be published by the writer of the present paper.

In making this classification the determining factor was whether the word was recorded in MONIER WILLIAMS' *Sanskrit-English Dictionary*. The references to Vedic Literature, Lexicons and Grammatical words etc. are as given in that Dictionary.

(1) *Vedic words*

We meet with a number of rare words which appear in Vedic Texts only. e.g.

aka n. 2.196.1 *kaṣṭa* pain, trouble. *TS.*
anāyatana n. 1.143.7 *kutsitadevatāgṛha.* that which is not really a resting place or an altar. *ŚBr.*
**aṣṭhīvat*[7] m. du. 1.232.23 the knees. *RV, AV, ŚBr.*
itvar mfn. 1.331.4 *dhāvanaśīla.* going fast. *RV.*
udumbara m. 2.66.1 *jantuphala.* the tree Ficus Glomerata (*Vedic*)
upasparśana n. 1.323.6 *ācamana.* sipping water. *Kāty. Śr., Śāṅkh. Śr.*
kumbhīnasa m. 1.378.2 *sarpa.* a snake. *TS.*
**jātyaśva* m. 1.352.17 a horse of good breed. *RV.*
dhūmaketu m. 1.254.8 *agni.* N. of Agni. *RV.*
pariṇaya m. 2.81.6 *pāṇipīḍana.* marriage. *Gṛhya.*
maṇḍūkī f. 2.153.6 *dardurī.* a female frog. *RV.*
mṛṣodya n. 2.72.1 *asatyavacana.* untrue speech. *Āpast.*
**vaptṛ* m. 1.241.22 father. *Dharmaś.*
**vaṣaṭkṛta* mfn. 2.130.29 offered in fire with *vaṣaṭ. RV.*
śambhu mfn. 1.346.2 *sukhotpādaka.* causing happiness. *RV.AV. Br. ŚrS.*
suvidatra mfn. 1.324.2 *maṅgalabhūta.* benevolent, propitious. *RV. AV.*
saurabheya m. 1.68.2 *vṛṣabha.* a bull *VS.*

It will not be out of place here to quote a few words which are found only in the *Epics* and *the Purāṇas.*

Words from Epics

**āśāgaja* m. 1.185.13 elephant of the quarter. R.
kuṇṭha mfn. 1.180.4 *manda.* blunt, dull. *Mbh.*
patatri m. 1.259.8 *pakṣin.* a bird. *Mbh.*
**pāśin* m. 1.219.9 N. of Varuṇa. *Mbh. Hariv.*
**puṣpopajīvin* m. 1.393.18 a garland-maker. *R.*
velāvana n. 1.221.4 *samudrataṭodyāna.* a forest on the sea-shore. *Mbh.*

Words from Purāṇas

pitṛpati m. 1.151.3 *yama. N.* of Yama. *Mārk. P.*
bharata m. 1.237.2 *ṛṣabhadevaputra.* N. of the son of Ṛṣabhadeva. *Pur.*
siṁhaśāva m. 1.388.2 *siṁhabālaka.* a lion's cub.

7. *this mark indicates that the word occurs in the commentary of Śrutadevasūri, on *Yaśastilaka.*

(3) *Words recorded only in Grammatical Works—*

Yaśastilaka like majority of Jaina Texts, uses a considerable number of words quotable only from Grammatical works. Somadeva derives a part of his verbal inspiration from grammarians. e.g.

adhvanya m. 1.36.2 *pathika*. a traveller. *Pāṇ*.
anupadīnā .f 2.42.8 *upānah*. a boot. *Pāṇ*.
avakṣepa m. 2.100.5 *tiraskrāra*. blaming, reviling. *Pāṇ*. *Comm*.
ānāya m. 1.388.9 *jālaṁ*. a fisherman's net. *Pāṇ*.
upasaṁvyāna n. 2.82.7 *adhovastra*. an under grarment. *Pāṇ*.
kuthyat (from √*kuth* to stink, become putrid. *Dhātup*.) mfn. 1.117.6 *durgandhaṁ prāpnuvat*. stinking, becoming putrid.
khalatika n. 1.33.4 *khalatikaṁ nāma vanāni*. N. of a forest situated near *Khalatika*, mountain. *Pat*. on *Pāṇ*. *Vārtt*.
cilla mfn. 2.202.3 *dūṣikopahṛta*. blear-eyed. *Pāṇ*. *Vārtt*.
**chupita* f. (from √*chup* to touch. *Dhātup*.) mfn. 1.233.18 touched.
janāpavāda m. 2.148.9 *lokāpavāda*. ill-report. *Pāṇ*. *kāś*.
januṣāndhatva (from *januṣāndha* born blind. *Pāṇ*. *Vārtt*.) n. 2.67.1 *janmanā andhatva*. the state of a born blind.
√*dakṣ*—1.350.2 *śīghrā bhū*. to act quickly. *Dhātup*.
nāthahari[8] mfn. 2.185.3 carrying a master (as cattle). *Pāṇ*.
* *nārpatya* n. 1.392.18 sovereignty. *Pat*.
paśyatohara[9] mfn. 1.258.8 stealing before person's eyes. *Pāṇ*. *Vārtt*. *Pat*.
pratyavasāna n. 1.150..8 *bhojana*. consuming, eating. *Pāṇ*.
bāhā f. 1.192.1 *bhuja*. the arm. *Uṇ*.
**mahāśūdra* m. 2.185.12 a cowherd. *Pāṇ*. *Vārtt*. *Pat*.
viniyoga m. 2.161.7 *adhikāra*. a governing rule. *Kāś on Pāṇ*.
śarkarila mfn. 2.52.9 *karkarasahita*. gravelly. *Pāṇ*.
śrāyasa mfn. 2.70.5 *śreyasi bhavaṁ*. *Pāṇ*.
sāmi ind. 2.43.11 half (often in comp. with a p.p. *Pāṇ*.). (*ardhadagdhaṁ sāmidagdhaṁ*).

(4) Words recorded in so far available Dictionaries but without any referi nce—

There arise many cases where a vocable is registered but for which no citation from literature is available according to previosly published dictionaries. The job of the future compilers of Sanskrit Dictionary is to supply suitable references to these vocables from literature. *Yaśastilaka* has got a very great contribution to make in this particular direction. e.g.

agama m. 1.279.8 a tree.
atithi m. 1.41.1 N. of Suhotra (King of Ayodhyā and grandson of Rāma).

8. Used here as a substantive meaning 'bull.'
9. Used here as a substantive meaning 'a thief.'

*adhiśrayaṇī f. 2.227.19 a fire - place.
*antargaḍu mfn. 1.380.15 unprofitable, useless.
antarvaṁśika m. 2.23.9 superintendent of the women's apartments.
arjuna m. 2.194.5 the tree Terminalia Arjuna. *W.* and *A.*
ānarta n. 1.179.4 dancing. *T.*
indumaṇi m. 2.205.5 a moon-stone.
uttānaśaya mfn. 1.232.6 sleeping with the face upwards.
kaṣapaṭṭikā f. 1.376.12 a touch-stone.
kumbhinī f. 1.307.6 the earth.
*kravyāda m. 2.150.29 a goblin, rākṣasa. *W.*
gosava m. 2.117.4 a cow-sacrifice. *W.*
ghana m. 2.194.3 a collection, multitude. *W.*
dvijihva m. 1.346.4 a villain, scoundrel. *W.*
niśīthinī f. 1.357.1 night.
pūjyapāda m. 1.236.2 N. of Devanandin. *Cat.*
mugdhamati mfn. 2.145.7 foolish, silly. *A.*
*lakṣmīkānta m. 2.105.29 N. of Viṣṇu. *Cat.*
*vañcaka m. 2.67.13 a low or vile man. *W.*
saukhaśāyanika mfn. 1.366.5 one who asks another whether he has slept well.

(5) New words not so far recorded in published dictionaries :—

The present text is replete with new words which are not recorded in any published dictionaries. And herein lies the importance of the text from the lexigraphical point of view. The various words used for the sun and the moon, and for animals and birds which are given below will be enough to illustrate the point.

Words for the sun

(1) *akhiladvīpadīpa* 1.91.3
(2) *aditisuta* 1.44.3.
(3) *ahimadhāman* 1.19.2
(4) *kamalabandhu* 1.570.5.
(5) *kamalānandana* 1.548.1
(6) *kharakara* 2.4.1
(7) *ghoraghṛṇi* 1.66.3
(8) *tamorātimaṇḍala* 2.7.6
(9) *dinādhipa* 2.197.3
(10) *paruṣaraśmi* 1.597.1
(11) *prasphoṭana* 2.226.5
(12) *viśvadyuti* 1.155.1
(13) *haritavāhavāhana* 1.85.1

Words for the moon

(1) *amṛtamarīci* 2.20.7 ;
(2) *amṛtaruci* 1.171.3

(3) *amṛtarocis* 1.172.5 ;
(4) *kamalin* 1.41.2
(5) *kumudacakṣus* 2.15.7
(6) *kuraṅgāṅka* 2.45.6
(7) *niśādarśa* 1.85.3

Words for animals

agnijanman m. 2.203.8 a dog.
amaradhenu f. 1.220.5 the mythical cow.
āreya m. 2.186.3 a ram, sheep.
āśākaraṭin m. 1.28.1 a quarter-elephant.
udakadvipa m. 2.209.2 a water-elephant.
kakubha m. 2.208.5 *bālakurkuṭa*.
kaṭin m. 2.169.3 a boar, hog.
karaṭiripu m. 1.56.3 a lion.
karivairin m. 2.201.6 a lion.
kuraṅgikā f. 2.204.5 a female deer.
kauleyaka m. 2.186.6 a dog.
garvara m. 1.68.2 a buffalo.
**garvarī*. f. 2.224.28 a she-buffalo.
**gāraḍaka* m. 2.221.31 a wild goat '
camūra m. 1.144.5 a tiger.
**cikkagaja* m. 2.40.12 *gajabālaka*.
citraka m. 2.194.2 a kind of tiger.
chāgaladhenu f. 2.222.5 a she-goat.
jānaka m. 2.198.3 a monkey.
—m. 2.198.3 a forest.-bull.
**jīvāyakaśṛṅga* m. 2.200.21 a rhinoceros.
juhurāṇa m. 1.214.4 a horse.
dadhimukha m. 2.162.5 an ass.
dandaśūkeśvara m. 1.66.4 a lord of serpants, *śeṣa*.
dviradana m. 2.11.4 an elephant.
dhenupriyā f. 1.497.6 a female elephant.
nāḍījaṅgha m. 2.124.10 a monkey.
nityajāgarukasuta m. 2.187.3 a dog.
netra 2.169.5 a kind of deer.
puradhūrta 1.423.9 a jackal.
purudaṁsas 1.161.4 a cat.
bhaṇḍila m. 2.191.5 a dog.
bhallūka m. 2.198.4 a jackal.
mitadrava m. 1.465.1 a horse.
mitaṁdru m. 1.144.1 a horse.
rerihāṇa m. 1.605 .7 a buffalo.
varāhavairin m. 2.188.3 a dog.

vāmanā f. 2.196.2 a wife of female elephant.
vāleyaka m. 2.186.3 an ass.
**vāhadviṣ* m. 2.199.11 a buffalo.
vyālī f. 2.51.3 a vicious female elephant.
śunīsūnu m. 2.190.8 a dog.
sindhuradviṣ m. 1.524.1 a lion.
suravāraṇa m. 2.245.8 an elephant of gods, *Airāvata*.
surasurabhi f. 2.185.8 a cow of gods, *Kāmadhenu*.
harihastin m. 2.12.5. an elapheant of Indra, *Airāvata*.

(6) *Technical terms* :—

Yaśastilaka like other Jaina works is designed to be a manual of Jaina doctrines and in this connection a number of philosophical doctrines is mentioned and criticized by Somadeva in his work. The problems of statecraft are also dealt with in their minutest details, side by side with the description of court life. Naturally we come across many technical terms in the portions of the text. e.g. Somadeva enumerates different kinds of rutting elephants and the particular states of intoxication to which they are subject. The technical terms involved in this particular matter are as follows :

ativartinī f. 1.495.4 N. of a particular state of intoxication of *carcarīvataṁsa* kind of elephant.

adhonibandhinī f. 1.495.2 N. of a particular state of intoxication of *uddhatāṅkuśa* kind of elephant.

ahitakulakālānala m. 1.495.3 N. of a rutting elephant in *krodhinī* state of intoxication.

ārdrakapolikā f. 1.495.2 N. of a particular state of intoxication of *paṭṭavardhana* kind of elephant.

uddhatāṅkuśa m. 1.495.2 N. of a rutting elephant in *adhonibandhinī* state of intoxication.

krodhinī f. 1.495.3 N. of a particular state of intoxication of *ahitakulakālānala* kind of elephant.

gandhacāriṇī f. 1.495.3 N. of a particular state of intoxication of *paracakrapramardana* kind of elephant.

carcarīvataṁsa m. 1.495.4 N. of a rutting elephant in *ativartinī* state of intoxication.

paṭṭavardhana m. 1.495.2 N. of a rutting elephant in *ārdrakapolikā* state of intoxication.

paracakrapramardana m. 1.495.3 N. of a rutting elephant in *gandhacāriṇī* state of intoxication.

vasumatītilaka m. 1.495.1 N. of a rutting elephant in *saṁjātatilakā* state of intoxication.

vijayaśekhara m. 1.495.4 N. of a rutting elephant in *saṁbhinnamadamaryādā* state of intoxication.

saṁjātatilakā f. 1.495.1 N. of a particular state of intoxication of *vasumatītilaka* kind of elephant.

saṁbhinnamadamaryādā f. 1.495.4 N. of a particular state of intoxication of *vijayaśekhara* kind of elephant.

(7) Words peculiar to Jaina literature : -

We have a group of comparatively few words which are favoured by Jaina texts only. e.g.

agramahiṣī f. 1.135.1 the principal queen.
adhyakṣa mfn. 1.406.9 present before the eyes.
**khaḍara* mfn. 1.227.23 dwarfish.
**kharjana* n. 2.12.25 the act of scratching ; itching.[10]
**khāṭakin* m. 2.130.26 a butcher.[11]
**gophaṇa* m. 1.145.15 a kind of weapon.[12]
**caḍhitvā* g. 2.158.29 having mounted.[13]
cheka mfn. 1.90.2 clever.
talavara m. 2.245.17 a body-guard.
pallavaka mfn. 2.11.2 learned, wise.
puṣpabaṭu m. 2.141.4 a student, pupil.
**pramīlā* f. 2.215.30 sleep.
**bhambhā* f. 1.313.19 a kettledrum.
māma m. 1.426.8 a maternal uncle, father-in-law.
mūḍhadhīśvara m. 1.9.9 a commentator.
**varṣīyas* mfn. 2.134.19 aged, old.

Secondly there are a number of new onomatopoetic words used in the text as well as in the commentary. e.g.

**kaṭakaṭāyamāna* mfn. 2.205.9 (*sphuṭantam iva kaṭakaṭāyamānam iva*).
khaḍatkhaḍiti ind 1.500.6 *khaḍakhaḍāyamāna*.
khaṇatkhaṇiti ind. 1.500.4 *khaṇakhaṇāyamāna*.
jhaṇajhaṇāyamāna mfn. 1.101.1 *śabdāyamāna*.
taḍattaḍiti ind. 1.500.3 *taḍataḍāyamāna*.
dhagaddhagiti ind. 2.227.3 *jājvalyamāna*.
maḍanmaḍiti ind. 1.500.3 *maḍamaḍāyamāna*.

10. *Cf.* Marāṭhī--*khājavaṇe* in the same sense.
11. *Cf.* Marāṭhī—*khāṭika* in the same sense.
12. *Cf. gophaṇa* in Marāṭhī in the sense of a sling used by the farmers to ward off birds from their crops.
13. *Cf. caḍhaṇe* in Marāṭhī in the same sense.

Thirdly occasionally we notice a noun-stem is converted without any further addition than that of an *a* into a present stem.[14]

saudhanti 1.479.2 *sudhāvalitān iva ācaranti.*

Lastly we have grouped together a large number denominative verbs and participles. This is one of the characteristics of Jaina language. e.g.

ahivalayita mfn. 1.415.10 *sarpaveṣṭita.*
ācaritamṛgāyita mfn. 1.490.5 *kṛtapalāyana.*
āścaryita mfn. 1.184.4 *vismayaṁ prāpita.*
eṇāyita mfn. 1.128.9 *mṛgair iva ācarita.*
kaṇṭakayantī f. 2.51.6 *romāñcitaṁ kurvatī.*
kalahita mfn. 1.619.8 *kopaṁ prāpita.*
kuvalayita mfn. 1.465.5 *utpalaviśeṣasahitaṁ kṛtaṁ*
√*kṛṣṇaya* 1.170.3 *kṛṣṇavarṇaṁ karoti.*
√*krīḍāya* 1.590.2 *vihārayati.*
√*kṣīrodadhaya* 1.479.1 *kṣirodadhir ivācarati.*
√*gajāyita* mfn, 1.128.8 *gajair ivācarita.*
√*nidhanaya* 1.436.7 *vināśayati.*
bhṛśāyamāna mfn. 2.53.3 *ativegavat.*
malinayat mfn. 2.87.2 *mlāniṁ nayat*
śikhāmaṇīyamāna mfn. 1.454.2 *śiroratnam invācarat.*
√*śubhraya* 1.169.10 *subhraṁ karoti.*
√*sudhākumbhāya* 1.213.4 *pūrṇarasaghaṭa ivācarati.*
haṁsāyita mfn. 1.128.7 *haṁsair ivācarita.*
√*haragiraya* 1.479.1 *kailāsagirivad ācarati.*

We have presented below a list of words which are recorded only in lexicons and which have, therefore, no literary usages recorded in the dictionaries printed so far. The *Yaśastilaka* proves to be a very valuable source from this point of view in that it supplies literary usages of those words to the future compilers of a dictionary. On a critical study of this list, we make the following observations :

(1) Quite a number of words occur with more or less form changed, as compared with their correspondants in the lexicons.

kutapin > *kutapa* ; *kutkīla* > *kukīla* ; *colaka* > *cola* ; *darpa* > *darpaka* ; *duli* > *dulī* ; *nilimpaka* > *nilimpa* ; *pulāka* > *pulaka* ; *bodhakāra* > *bodhakara* ; *bhogīndra* > *bhogindra* ; *mātṛnandana* > *mātṛnandin* ; *mṛgabandhani* > *mṛgabandhinī* ; *raṅgājīvaka* > *raṅgājīva* ; *vāyanaka* > *vāyana* ; *vāraṇabūsā* > *vāraṇabusā* ; *vaikakṣaka* > *vaikakṣa* ; *śrutadevatā* > *śrutadevī* ;

14. *Cf.* WHITNEY, *Sanskrit Grammar* 1054. Also noticed by M. BLOOMFIELD in his paper on *Śālibhadracarita*, *JAOS* 32, 309.

(2) Certain words are formed from the word in the lexicons with a change from substantive to adjective and vice versa :—

kīrtiśeṣa mfn. > *kīrtiśeṣa* m. ; *kṣudra* n. > *kṣudra* mfn.
kṣetrajña m. > *kṣetrajña* mfn ; *dṛṣṭarajaḥkanyā* f. > *dṛṣṭarajas* f. ;
dṛṣṭānta m. > *dṛṣṭāntakīrti* mfn. ;
pakṣapātin mfn. > *pakṣapāta* m. ; *paṅkila* mfn. > *paṅka* m.n. ;
sudhāndhas mfn. > *sudhāndhas* m.; *heṭha* mfn. > *heṭha* m.

(3) A few words are used in a gender different from that of the lexicons :—

avasatha m. > *avasatha* n. ; *kaṭāhikā* > *kaṭāhaka* n. ;
gandhasāra n. > *gandhasāra* m.; *culukī* f. > *culukin* m. ;
tīrtha m. > *tīrtha* n. ; *tūra* n. > *tūra* m. ;
muktabandhana n. > *muktabandhanā* f.; *śiva* m. > *śiva* n. ;
śivapriya n. > *śivapriya* m. ; *samīkṣā* f. > *samīkṣa* n. ;
sphaṭika m. > *sphaṭikā* f. ;

(4) A few abstract nouns are formed from the word in the lexicons :—

caṇḍabhāva > *caṇḍa* ; *pāṁsulatā* > *pāṁsula* ; *śivatā* > *śiva*.

(5) We have noticed a few words which are used in a sense which is slightly different from that of the lexicons :

aṅgaja—the hair > the hair of the head.
ajagava—a bow > Śiva's bow.
karaṅka—*sūkṣmaśarīra* > any bone of the body.
cikura—the hair > the hair of the head.
cīrī—the hem of a garment > the hem of an under garment.
jambuka—a guardian of the west > N. of Varuṇa.
tamaṅga—a palace > a platform.
talikā— a pot > a horse's food-receptacle.
nāṭera—an actor > the son of an actress or a dancing girl.
lālāṭika—a servant > an attentive servant.
sahasradaṁṣṭrin—a fish > a sort of sheat fish.
haraṇi—heaven > death.
hiñjīra—an anklet > a rope or chain for fastening an elephant's foot.

(6) It the case of following words the meaning given by the commentator is entirely different from that given in the lexicons :—

avatokā, *dhenuṣyā*, *paliknī*, *vehat* and *sandhinī*.
akuhana mfn. 2.142.4 not envious or hypocritical.[15]

15. *Cf. kuhana* mfn. envious, hypocritical L (*MW*).

akṣa m. 1.395.8 a law-suit, knowledge.[16]
**akṣība* n. 2.124.16 sea-salt.
aṅgaja m. 1.282.3 the god of love.
—m. 1.314.4 hair.[17]
ajagava m. 1.579.8 a bow.[18]
aṇḍaja m. 1.615.9 a bird.
**adhirohaṇī* f. 2.15.17 a ladder, flight of steps.
anaṅga n. 1.91.3 sky.
anīkastha m. 1.495.4 the trainer of an elephant, an elephant-driver.
anuśrava m. 2.62.4 Vedic tradition (acquired by repeated hearing).
antarvāṇī mfn. 1.477.8 skilled in sacred sciences.[19]
**apācya* mfn. 2.182.16 southern.
**abdhikapha* m. 1.524.18 foam.[20]
abhīru f. 2.195.1 the plant Asparagus Racemosus [*indīvarī*—commentary (com.).]
ama m. 1.181.4 disease.[21]
ambariṣa m. 2.195.4 war, battle.[22]
**ambaṣṭā* (*ṣṭhā* ?) 1.543.12 Jasminum Auriculatum. (*yūthikānām ambaṣṭhānām*-com.)
**araṇyaśvan* m. 2.205.10. a wolf. (*tarakṣuṇā araṇyaśunā*—com.).
arimeda m. 2.195.4 a fetid Mimosa, Vachellia Farnesiana.
arjuna m. 2.194. 5 a peacock.
avatokā f. 2.186.2 (*viṣāṇavikalā gauḥ*-com.).[23]
avantisoma m. 1.406.1 sour gruel.
avasatha n. 1.78.6 a house, dwelling.[24]
avasāna n. 2.206.5 boundary, limit.
avahāra m. 2.208.6 a marine monster.
avahela n. 1.431.7 disrespect.
* *avahelana* n. 1.176.26 disrespect.
avāsas mfn. 2.101.10 unclothed.
aśmagarbha n. 1.528.21 an emerald.
aṣṭāpada m. 2.194.2 the mountain *Kailāsa*.
- m. 2.194.2 the fabulous animal *śarabha*.
asitarti m. 1.298.3 fire.[25]

16. in *ākṣapaṭalika*.
17. *Cf. aṅgaja* m. hair of the head L(*MW*).
18. *Cf. ajagava* m. Śiva's bow L(*MW*).
19. Recorded by *MW* without any reference. The Com. cites '*antarvāṇis tu śāstravit.*'
20. Recorded by *MW* but not in this sense. The Com. cites '*ḍiṇḍīro'bdhikaphaḥ phenaḥ.*'
21. In *kṛtabandhujanakāmaḥ*.
22. *Cf. ambarīṣa* m. L(*MW*).
23. *Cf. avatokā* a cow miscarrying from accident L (*MW*).
24. The Com. uses it in masculine gender.
25. *Cf. asitārcis* fire L(*MW*).

ahipati m. 1.167.11 sovereign of the snakes, N. of *Śeṣa*.
ahīśvara m. 1.344.1 lord of the serpants, N. of *Śeṣa*.
ākarṣa m. 2.191.4 a play-board.
āyaḥśūlika mfn. 1.141.3 acting violently.
āra m. 1.95.6 N. of the planet Mars.
**āvāla* : m. 1.104.12 a basin of water round the foot of a tree.
āsutīvala m. 1.324.1 a priest (who prepares the Soma).
āsecanaka mfn. 1.176.3 charming.[26]
indirāmandira m. 1.189.4 the home of *Lakṣmī*, N. of *Viṣṇu*.
**indīvarī* f. 2.195.6 the plant Asparagus Racemosus. (*abhīrur indīvarī*—Com.).
**indrasurasa* m. 1.106.20 Vitex Negundo (*sinduvāra indrasurasaḥ*—Com.).
**ibhī* f. 2.159.13 a female elephant.
uṭaja m. n. 2.218.9 a house.
uttaṁsa m 1.246.2 an earring.
uttāra mfn. 1.616.6 excellent. pre-eminent.
utthāna n. 2.86.29 joy, pleasure (?).
uddhāna n. 2.227.4 a fire-place.
udbheda m. 2.22.6 a sprout or shoot of a plant.
unmātha mfn. 1.47.6 murderer, slaughtering.
upakaṇṭha n. 1.180.3 space near a village or its boundary.
upakāryā f. 1.221.6 a king's house.
umā f. 1.53.3 fame. reputation.
ulloca m. 1.595.9 an awning. canopy.
uśīra 1.134.2 a bed used as a seat.[27]
uṣṇikā f. 2.88.27 rice-broth.
ekāyana mfn. 1.372.3 closely attentive, absorbed in.
eḍa mfn. 2.139.4 deaf.
ka m. 1.100.5 wind, air[28]
kakṣa m. 1.250.2 a spreading creeper, climbing plant.
kaṭaka m. 1.451.6 an army.
**kaṭāhikā* f. 1.86.5 a pan, pot.[29]
**kaṇṭakiphala* m. 1.97.11 Artocarpus Integrifolia. (*panasapādapaiḥ kaṇṭakiphalavṛkṣaiḥ*—Com.)
**kandarāla* m. 1.96.17 N. of a plant (*akṣolānāṁ karparālānāṁ kandarālānām akhoṭānāṁ*—com.)
kandala m. n. 1.613.5 a new shoot or sprig.
**kapipriya* m. 1.405.20 Spondias Magnifera. (*āmrātakaś ca kapipriyavṛkṣaḥ*——Com.).
**kabandha* n. 1.541.26 water.
kamala m. 1.39.2 a species of deer.

26. The Com. quotes *Amarakośa* (3.1.53)--*tad āsecanakaṁ tṛpter nāsty anto yasya darśanāt.*
27. *Cf. auśīra* n. a. bed (used also as a seat) L(*MW*).
28. in *kadalīdalātapatra*.
29. *Cf. kaṭāhaka* n. a pot L (*MW*).

**kambuka* m. 1.486.15 a conch, shell.
karaṅka m. *śuṣkaśarīra.*—com.[30]
*— m. 2.48.9 a cocoanut hollowed to form a cup or vessel.
karaṭaka m. 2.41.18 a kind of funeral ceremony.[31]
karaśākhā f. 1.142.3 a finger.[32]
karimakara m. 2.210.4 a fabulous monster.
karkāru n. 1.405.1 the fruit of Beninkasa Cerifera (a species of gourd—com.). (*kaliṅgaphala*—Com).
**karṇalatā* f. 2.9.11 the lobe of the ear.
karpara m. 2.44.1 the shell of a tortoise.
**karparāla* m. 1.96.17 N. of a plant (*akṣolānāṁ karparālānām*—Com.)
karmandin m. 1.134.3 an ascetic.
**kalarava* m. 1.19.29 a pigeon.
kalaśī f. 2.215.7 a churn.
kalācī f. 1.532.5 the fore-arm.
kali m. 2.195.4 Terminelia Bellerica (*vibhītakataru*—Com.).
kaśipu m. du. 1.346.3 food and clothing.
**kaśmīrajanman* 1.39.20 saffron.
**kākāri* m. 1.115.7 enemy of cows, an owl.
kākuda n. 1.102.8 the palate.[33]
kāñcanāra m. 1.106.1 Bauhinia Tomentosa.[34]
**kāmāṅkuśa* m. 1.294.28 a finger nail.
**kālaskandha* m. 2.226.11 Xanthochymus pictorius. (*tamālataravaḥ kālaskandhavṛkṣāḥ*—Com.).
kālāguru n. 1.368.5 a kind of black aloe wood.
kāleya n. 1.243.4 saffron.
**kāśmīrajanman* n. 1.61.26 saffron.
kāsara m. 1.48.5 a buffalo.
kāhala m. 1.102.1 a sound.[35]
kiṁpaca mfn. 1.403.7 who cooks nothing, miserly, avaricious.
kīkaṭa mfn. 1.403.7 poor.
kīkasa n. 1.116.2 a bone.
kīrtiśeṣa mfn. 2.192.2 dead.[36]
kuja m. 1.246.2 born from the earth, a tree.
kuṭa m.n. 2.61.7 a water-pot, pitcher.
kuṭha m. 1.209.1 a tree.[37]

30. *Cf. karaṅka* m. any bone of the body L(*MW*).
31. *Cf. karaṭa* m. a kind of funeral ceremony L(*MW*).
32. Also occurs in the Com. 2.27.28.
33. Also occurs in the com. 2.65.11.
34. The Com. cites, " *kovidāre kāñcanāraḥ kuddālaḥ kuṇḍalī halī* etc."
35. The Com. gives *asphuṭaśabda* as its equivalent.
36. *Cf. kīrtiśeṣa* m. death L (*MW*).
37. in *kuṭhāra*.

kutapin m. 2.229.2 a drummer.[38]
kutkīla m. 1.543.4 a mountain.[39]
kumbhin m. 1.221.6 an elephant.
**kuraṇṭaka* m. 1.103.26 yellow amaranth (*kiṅkirātarājī kuraṇṭakataruśreṇī* —Com.).
kurala m. 1.569.6 a curl or lock of hair.
kurula m. 1.525.2 a curl or lock of hair.
kuvalī f. 1.398.3 the jujube tree (*badarī*—Com.)
kūrca m. 2.28.6 a store-room.
**kūrdana* n. 1.208.23 playing, sport.
**kūṣmāṇḍī* f. 1.317.15 the gourd Beninkasa Cerifera. (*kohalīnī°...kūṣmāṇḍī°* -—Com.).
kṛka m. 2.190.1 the throat, larynx.
kesara n. 1.39.3 (*kaśmīrajanmakusuma*—Com.)
**kokanadacchavi* mfn. 1.293.17 of the colour of red lotus.
kṣapaṇa m. 2.111.8 a Jaina mendicant.
kṣapā f. 1.464.2 turmeric.
**kṣīra* n. 1.353.12 water.
kṣudra m. 2.147.9 a cruel animal.[40]
**kṣudravārtākī* f. 1.405.26 a variety of solanum. (*bṛhatī kṣudravārtākī*—Com.)
kṣetrajña m. 1.13.5 one who is familiar with the cultivation of the soil, a husbandsman.[41]
**kṣaudra* m. 1.313.29 honey.
**khaṭa* m. 2.53.17 grass.
**kharjūrī* f. 2.197.12 the wild date tree (*saniḥśreṇīkaṁ kharjūrīvṛkṣasahitam* Com.).
**kharpara* m. 2.44.9 the skull.
**khātikā* f. 1.216.7 a ditch.
kheya n. 1.378.4 a ditch.
**khoḍa* mfn. 2.202.27 limping, lame.
gaṇikā f. 2.159.4 a female elephant.[42]
**gaṇḍaka* m. 1.216.16 a rhinoceros.
gandhavāhā f. 1.123.2 the nose.
**gandhasāra* n. 1.295.28 sandle-wood.[43]
gātra n. 1.482.6 the forequarter of an elephant.
gāyatrī f. 2.195.5 Acacia Catechu (*khadira*—Com.)
girika m. 1.80.1 a ball for playing with.
guḍa m. 1.582.5 an elephant's trappings or armour.

38. *Cf. kutapa* m. a kind of musicl instrument L(*MW*).
39. *Cf. kukīla* m. a mountain L(*MW*).
40. *Cf. kṣudra* mfn. cruel L(*MW*).
41. *Cf. kṣetrajña* mfn. familiar with the cultivation of the soil L(*MW*).
42. *mataṅgajagaṇikā* means a female elephant.
43. *Cf. gandhasāra* m. sandle-wood L(*MW*).

**gudapuṣpa* m. 1.106.25 Bassia latifolia (*madhukeṣu gudapuṣpeṣu*—Com.).
**guluccha* m. 2.17.17 a bunch, cluster of blossoms.
guluñcha m. 1.244.2 a bunch, cluster of blossoms.
gṛdhnutā f. 2.243.2 greediness.
**genduka* m. 1.214.28 a ball to play with.
**godhi* m. 1.555.29 the forehead
**gomakṣikā* f. 2.65.11 a gad-fly.
**gomayacchanna* (°*tra* ?) n. 1.542.29 a fungus.[44]
**goviṣ* f. 2.126.27 cow-dung.
gauradhāman 1.231.3 the moon.[45]
ghaṭadāsī f. 1.434.1 a bawd. a female servant.
ghoṭikā f. 2.53.3 a mare.
cakrin m. 1.413.5 a potter.
cañcā f. 1.414.2 anything made of cane or reeds.
candabhāva m. 1.269.9 anger, warth.[46]
**candanācala* m. 1.180.30 sandal-mountain, the Malaya.
candra m. 1.173.6 gold.
candralekhā f. 2.195.3 Serratula anthelminthica. (*vākuci*— Com).
calana m. 1.34.4 a foot.
cārvī f. 1.276.5 intelligence.[47]
cikura m. 138.2 the hair.[48]
cipiṭa m. 1.466.3 flattened rice.
cīrī f. 1.398.2 the hem of a garment.[49]
curī f. 2.198.6 a small well or reservoir near a well.
culukī f. 2.216.2 a female porpoise [50]
ceṭaka m. 1.423.6 a paramour.
cetakī f. 2.171.2 Terminalia chebula (*sacetakaḥ harītakīvṛkṣasahitaḥ*—Com.).
cetobhava m. 1.591.1 love, god of love.
colaka n. 1.439.7 a garment [51]
- m. 1.466.4 a cuirass.
**chāgikā* f. 2.123.18 a she-goat.
jagatsraṣṭṛ m. 1.381.8 an epithet of Śiva.
**jaghanephala* n. 2.143.24 the fruit of Ficus oppositifolia. (*udumbarāṇi jaghanephalāni*—Com.)[52].
**jantuphala* (m.?) 2.66.12 Ficus glomerata (*undumbaraphalasyeva jantuphalasyeva* —Com.).

44. Probably *channa* is a mistake for °*cchatra*.
45. *Cf. gaura* m. the moon L(*MW*).
46. *Cf. canda* n. wrath L(*MW*).
47. The com. gives *samyagjñāna* as its equivalent
48. *Cf. cikura* m. the hair of the head L(*MW*).
49. *Cf. cīrī* f. the hem of an under garment L(*MW*)
50. *Cf. culukin* m. a porpoise L(*MW*).
51. *Cf. cola* n. garment L (*MW*).
52. *Cf. jaghanephalā* f. Ficus oppositifolia L(*MW*).

jambuka m. 2.194.4 a guardian of the west.[53]
jaraṇḍa mfn. 1.126.8 decayed, old.
**jalavyāla* m. 2.208.29 a marine monster.
jhillīkā f. 1.246.5 a cricket.
tapasvinī f. 2.195.2 (*muṇḍīkalhārā*– Com).
tamaṅga m. 1.181.8 a palace.[54]
tamopaha m. 1.372.8 the sun.
taraṇḍa m. 2.217.1 (*phalaka* ?—Com.)
taravāri m. 1.50.3 a sword.
talikā f. 1.83.3 a pot.[55]
talina mfn. 1.309.5 small.
talla m. 1.523.6 a pond.[56]
tāra m. n. 1.209.6 a star.
—mfn. 1.610.3 clean. clear.
tīrtha m. 1.224.2 (*caturthadivasasnātā strī*—Com.).[57]
tunda n. 1.400.6 the belly.
**tundikā* f. 1.532.12 the navel.
tūra m. 1.118.8 a musical instrument.[58]
troṭi f. 1.249.2 a beak.
daṁśa m. 1.587.2 a tooth.
dantin m. 2.194.1 a mountain.
darpa m. 1.253.1 the god of love.[59]
daśabala m. 1.202.2 N. of a Buddha.
dākṣāyaṇī f. (pl.) 1.466.6 the 27 lunar mansions considered as daughters of Dakṣa and wives of the Moon, among whom Rohiṇī is the favourite.
digvāsas m. 2.38.2 a naked medticant.
divākīrti m. 1.403.4 a barber.
divyacakṣus mfn. 1.428.1 blind.
**divyaratna* n. 2.73.23 the fabulous gem Cintāmaṇi.
dīdivi m .n. 1.401.1 boiled rice, food.
**dīrghapṛṣṭha* m. 1.125.22 a snake.
duḥsphoṭa m. 1.145.1 difficult to be burst, a sort of weapon.
**duli* f. 2.169.21 a female tortoise.[60]
dṛṣṭarajaḥkanyā f. 1.196.28 a girl arrived at puberty (having experienced the menses).[61]

53. *Cf. jambuka* m. N. of Varuṇa L (*MW*).
54. *Cf. tamaṅga* m. a platform L(*MW*).
55. *Cf. talikā* f. a horse's food-receptacle L(*MW*).
56. Also occurs in the Com. 1.311.25.
57. *Cf. tīrtha* n. a woman's courses L (*MW*).
58. It is used in neuter in 1.118.11.
59. *Cf. darpaka* m. the god of love L(*MW*).
60. *Cf. dulī* f. a female tortoise L (*MW*).
61. *Cf. dṛṣṭarajas* f. a girl arrived at puberty L (*MW*).

dṛṣṭānta m. 2.223.5 death.[62]
devasāyujya n. 2.136.5 union with or reception among the gods, deification.
dolikā f. 1.464.5 a little swing (*jhampāna*—Com.).
dauleya m. 2.169.4 a tortoise.
dyusad m. 1.198.6 a god.
drughaṇa m. 2.185.2 axe. hatchet.
drumotpla m. 1.588.13 Pterospermum Acerifolium.
dvāpara m. n. 1.372.8 doubt, uncertainty.
dvijāti m. 1.210.2 a bird (*kokila*—Com.)
**dvīpinī* f. 2.201.11 a kind of plant (*vyāghrī dvīpinī*—Com.)
dhṛṣṇi m. 1.19.3 ray of light.
dhenuṣyā f. 2.11.7 an excellent cow.[63]
nakhāyudha m. 1.68.1 a lion, tiger etc.
nameru m. 1.96.6 Elaeocarpus Ganitrus (*pārijāta*—Com.)
nāgaraṅga n. 1.95.5 an orange (*mukhapriyaphala*—Com.)[64]
nāṭera m. 2.194.2 an actor.[65]
niḥśreṇī f. 2.197 1 the wild date tree (*kharjūrīvṛkṣa*—Com.)
nigala m. m. n. 1.440.9 an iron chain.
nicikī f. 2.184.8 an exellent cow.
nipa m. 1.49.2 water-jar.
nilimpaka m. 1.18.2 a god.[66]
**niṣpāvaka* m. 1.405.31 (*vallakā niṣpāvakkāḥ*—Com.)
nīka 1.69.15 a channel.
pakṣapātin mfn. 1.458.11 (*pakṣacchedaka*—Com.)[67]
paṅkajāta n. 1.281.9 a lotus.
paṅkila mfn. 1.163.4 sinful.[68]
paṅkeja n. 1.416.6 a lotus.
paṭala m. 1.243.6 an ornamental mark on the forehead or other parts of the body with sandal-wood. (*picūpūpaḥ*—Com.)
paṭola n. 1.368.2 a kind of cloth.
padmarāga m. 1.123.24 a ruby.[69]
parameṣṭhin m. 1.566.3 N. of a Tīrthaṁkara (*ṛṣabhadeva*—Com.)
parikara m. 1.464.7 to gird up one's loins. make preparations. (*prārambha*—Com.)
**parivyādha* m. 1.463.28 Calamus Fasciculatus or Pterospermum Acerifolium (*°karṇikārāṇāṁ parivyādhatarūṇām*—Com.)
pareṣṭukā f. 2.186.1 a cow which has often calved.

62. *dṛṣṭāntakīrtim* = *mṛtam*—Com.
63. *Cf. dhenuṣyā* f. a cow whose milk has been pledged L(*MW*).
64. *Cf. nāgaraṅga* m. an orange tree. *Śrīkaṇṭha* and L(*MW*).
65. *Cf. nāṭera* m. the son of an actress or a dancing girl L(*MW*).
66. *Cf. nilimpa* m. a god L(*MW*).
67. *Cf. pakṣapāta* m. falling of the feathers, the moulting of birds L(*MW*).
68. *Cf. paṅka*, m. n. sin L(*MW*).
69. Also occurs in the Com. 1.364.17.

palāśa m. 1.48.3 a rākṣasa.
**palāśin* m. 1.303.11 a rākṣasa.
paliknī f. 2.186.2 (*alpadinagarbhā gauḥ*—Com.)[70]
**palyayana* n. 1.398.29 a saddle.
**palyāṇa* n. 2.219.8 a saddle.
pavanāśana m. 1.19.6 a serpent, snake.
pāṁsulatā f. 1.208.4 the state of being libertine.[71]
pāṇḍurapṛṣṭha mfn .2.56.5 one from whom nothing great is to be expected (*kulaṭā*—Com.)
pāthonidhi m. 1.250.4 the sea.
**pādasphoṭa* m. 2.44.15 a sore or ulcer on the foot.
**pādūkṛt* m. 1.125.17 a shoe-maker.
pārirakṣaka m. 1.236.2 m. Bhikṣu or Saṁnyāsín.
**picaṇḍa* n. 1.100.29 and 1.402 .9 the belly or abdomen.
picumanda m. 1.7.6 the Nimb tree. Azadirachta Indica.[72]
**piccaṭa* n. 1.185.28 tin.
piñjana n. 2.223.9 a bow or bow-shaped instrument for cleaning cotton.
piṇḍīśūra m. 1.423.3 cake-hero, a cowardly boaster.
pītapādā f. 1.248.21 yellow-footed, Turdus Salica.
pīlu m. 1.462.1 an elephant.
puṇyajana m. 1.345.5 a good or honest man.
**punarbhava* m. 1.25.20 a finer-nail
punnāga m. 1.106.2 Rottleria Tinctoria.
**puruṣa* m. 1.369.28-29 Clerodendrum Phlomoides (*tilakāni ca puruṣataru-puṣpāṇi*—Com.)
--*m. 1.591.17 Rottleria Tinctoria (*punnāgas tuṅgataruḥ puruṣavṛṣaḥ*—Com.)
pulāka m. 1.386.7 a cake of meal with which elephants are fed.[73]
puṣpaṁdhaya m. 1.68.2 a bee.
puṣpaśara m. 1.160.7 the god of love.
puṣpāstra m. 1.124.9 the god of love.
pūtipuṣpa n. 2.244.20 an ill-smelling blossom, the flower of Citrus Medica ?[74]
peṭa mfn. 2.184.7 a multitude.
pogaṇḍa mfn. 1.332.2 deformed, having a redundant or defective member.
**poṭagala* m. a. species of reed.
ptā (*pnā* ?) f. 1.169.4 the braided hair of Śiva.[75]
prakāṇḍa m. 1.25.6 the upper part of the arm.
prakīrṇaka n. 1.351.2 a chowrie.

70. *Cf.* *paliknī* f. a cow for the first time with a calf L.(*MW*).
71. *Cf.* *pāṁsula* m. a. libertine L (*MW*).
72. Also occurs in the com. 2.61.29.
73. *MW* records *pulaka* from L in this sense.
74. *Cf.* *pūtipuṣpikā* f. Citrus Medica L(*MW*).
75. Probably a mistake for *pnā*. But the author as well as the Com. read *ptā* :

pracalāka m. 2.180.5 a peacock's tail or crest.
pracalākin m. 1.19.5 a peacock.
**pracchadapaṭa* m. 1.605.20 an outer garment.
prajāpati m. 2.206.2 a king.
pratarkaṇa n. 1.414.6 reasoning, discussion.
pratāraṇa n. 2.72.2 deceiving, cheating.[76]
**pratāninī* f. 1.527.18 a spreading creeper, climbing plant.
pratīka m. 1.297.6 a limb (of the body.).
pratīhāra m. 2.25.3 a door, gate.
pradhi m. 1.68.6 a well.
pravaṇa mfn. 2.183.4 humble, modest.
praveṣṭa m. 1.160.9 an arm.
praṣṭhauhī f. 2.185.3 a cow for the first time with calf. (*bālagarbhiṇī gauḥ*—Com.)
prasūta n. 2.29.1 a flower.
phala n. 1.464.4 a shield.
phelā f. 1.128.4 remnants of food, refuse.
bakoṭa m. 1.439.8 a kind of crane.
ballavī f. 1.198.5 a cowherdess.
baṣkayaṇī f. 2.185.3 a cow with a young calf. (*praudhavatsā gauḥ*—Com.)
**bījavṛkṣa* m. 1.96.7 Terminalia Tomentosa (*bāṇā bījavṛkṣāḥ* Com.)
bṛhadbhānu m. 1.58.1 fire or the god of fire.
**bodhakāra* m. 1.247.24-25 a bard.[77]
**bhaṭṭa* m. 1.299.24 a bard.
bhaṭṭāraka mfn. 1.236.27 venerable.
bhaṇḍana n. 1.115.4 war.
bharma (or *bharman*) n. 1.243.5 gold.
bhāma m. 1.426.8 a sister's husband.[78]
bhujaśiras n. 2.22.3 arm-head, the shoulder.
bhujiṣyā f. 1.223.7 a harlot, courtezan.
bhūdeva m. 2.88.9 a brāhmana.
bhaikṣya n. 1.381.8 a multitude of alms.
bhogīndra m. 1.504.8 N. of a serpent king, *Śesa*.[79]
**maṅgala* m. 1.95.26 N. of the planet *Mars*.
maṇḍala m. 1.12.5 a dog.
maṇḍūra n. 2.44.4 rust of iron.
**madana* m. 2.196.22 a kind of palnt, Alangium Hexapetalum? (*vāmano madanavṛkṣaḥ*—Com.)
madhuka m. 1.106.4 Bassia Latifolia (*guḍapuṣpa*—Com.)
—m. 1.328.1 a bard.

76. Found in *Śārṅgadharapaddhati* and L(*MW*).
77. *Cf.* *bodhakara* m. a. bard L (*MW*).
78. Found in *Bhojaprabandha* and L(*MW*).
79. *MW* records *bhogīndra* as from L.

manda m. 1.494.5 stupid or slow elephant.
**mandāra* m. 1.276.11 a white variety of Calotropis Gigantea (*arkarase mandārakṣāre*—Com).
**manmatha* m. 1.96.26 Feronia Elephantum (*kapitthānāṁ manmathatarūṇām*—Com.)
maya m. 1.144.1 a camel.
marālī f. 1.249.4 a female goose.
marudbhavā f. 2.194.5 a kind of plant (*marudbhavā vātotpattiḥ*—Com)[80]
mahāmaṇḍala m. 1.462.1 a kind of snake.[81]
māgadhī f. 2.194.3 long pepper (*pippalī*—Com.)
mātṛnandana m. 2.197.1 a species of *karañja* (*karañjavṛkṣa* –Com.)[82]
mālūra m. 1.405.1 Aegle Marmelos (*bilva* —Com.)
māheyī f. 1.524 2 a cow.
mihira m. 1.544.6 a cloud.
**muktabandhana* 1.369.29 a kind of jasmine (*mallikāś ca muktabandhapuṣpāṇi*—Com.)[83]
**muktāsphoṭa* m. 1.314.23 a pearl-oyster.
munidruma m. 2.11.1 Agati Grandiflora (*agastivṛkṣa*—com.)
**mṛgabandhanī* f. 2.220.20 a net for snaring game.[84]
mṛgadaṁśa m. 2.186.5 a dog.
mecaka m. 1.539.5 a kind of gem.
yatayātāprayogin m. 1.394.6 not spurring or guiding an elephant by means of feet etc.[85]
**yamalapatraka* m. 1.106.9 Bauhinia Tomentosa (*°kāñcanārā......°yamalapatraka* —Com.)
**yautava* n. 1.155.27 measure in general.
raktatuṇḍa m. 2.198.1 red-beaked, a parrot.
**raktapā* f. 2.155.25 a leech.
raktākṣa m. 2.187.8 a buffalo
**raktākṣā* f. 1.144.12 she-buffalo.[86]
**raṅgājīvaka* m. 1.521.16 a painter.[87]
**rajasvala* m. 1.144.12 a buffalo
radanin m. 1.498.7 an elephant.
radin m. 2.15.1 an elephant.
rambhita n. 2.11.7 a lowing.
rākā f. 2.196.3 a girl in whom menstruation has begun.

80. *MW* gives *tāmramūlā* as its equivalent.
81. *Cf. maṇḍala* m. a kind of snake L(*MW*).
82. *Cf. mātṛnandin* m. a species of karañja L(*MW*).
83. *Cf. muktabandhanā* f. Arabian jasmine L (*MW*).
84. *Cf. mṛgabandhinī* f. a net for snaring game L(*MW*).
85. *Cf. yatayātaṁkara* m. spurring or guiding of an elephant by means of rider's feet etc. L(*MW*).
86. *Cf. raktākṣa* m. a buffalo L(*MW*).
87. *Cf. raṅgājīva* m. a painter L(*MW*).

**rājārha* n. 1.295.29 aloe wood.
lakṣmī f. 2.195.1 N. of a plant (*maraḍaśṛṅgī*—Com.)
lañjikā f. 1.417.5 a harlot, prostitute.[88]
latānta n. 1.97.1 end of a creeper, a flower.
latāveṣṭana n. 2.36.2 a creeper-embrace, embrace.
laya m. 1.20.3 an embrace.
lava m. 2.47.7 sport.
**lāṅgalin* m. 1.103.27 the cocoanut tree (*nālikerāṇāṁ lāṅgalitarūṇām*—Com).
lālāṭika m. 1.164.5 a servant.[89]
lesika m. 2.45.3 a rider on an elephant.
**loha* n. 1.295.29 aloe wood, Agallochum.
**lohamala* n. 2.44.21 rust of iron.
vañjula m. 2.210.3 N. of a plant.
vanīpaka m. 1.18.2 mendicant.
—m. 1.210.3 a beggar.[90]
**vappīha* m. 1.545.24 the bird Cuculus Melanoleucus.
varkara m. 2.219.1 a goat.
**vākucī* f. 2.195.14 Vernonia Anthelmintica (*candralekhābhir vākucībhiḥ*—Com).
vājin m. 1.308.5 a bird.
vātapramī m. 2.179.4 a kind of antelope.
**vātamaṇḍalī* f. a whirlwind.
**vātāri* m. 1.126.29 Ricinus Communis (*eraṇḍo vātārivṛkṣaḥ*—Com.)
vātula m. 1.40.2 a whirlwind.
vāntāda m. 2.188.4 a dog.
vāmana m. 2.196.2 Alangium Hexapetalum ? (*madanavṛkṣa*—Com.)
vāyanaka n. 1.330.7 presents of sweetmeats etc.[91]
vāraṇabusā f. 1.101.9 Musa Sapientum (*kadalī vāraṇabusā*—Com.)[92]
vāralā f. 1.54.4 a goose.
vārastrī f. 1.323.3 a harlot, courtezan.
**vāsantī* f. 1.106.12 Gaertnera Racemosa (*mādhavī vāsantī*—Com.)
**vikīraṇa* m. 2.195.19 Calotropis Gigantea (*arkamaṇḍalena vikīraṇavanena*—Com.)
vikṛta mfn. 1.486.1 sick. diseased ?[93]
vijayā f. 2.194.4 Terminalia Chebula (*harītakī*—Com.)
viṭa m. 1.422.10 the keeper of a prostitute (*parastrīlampaṭa*—Com.)
**viṭkhadira* m. 2.195.24 Vachellia Farnesiana (*arimedo viṭkhadiraḥ*—Com.)
viḍgandha n. 1.123.20 (*visram apakvaṁ viḍgandham*—Com.)
vināyaka m. 2.175.7 N. of *Garuḍa*.

88. Once the com. gives the meaning as *dāsī*. 2.223.6.
89. *Cf. lālāṭika* m. an attentive servant L(*MW*).
90. *MW* gives reference to L and *Siṁhāsanadvātriṁśikā*.
91. *Cf. vāyana* n. presents of sweetmeats L(*MW*.)
92. Once the com. gives *vāraṇabūsā* 1.541.9
93. The Com. cities, " *vikṛtaḥ saṁskṛto rogī bībhatsaś ca prakīrtitaḥ*. "

vineya m. 2.72.4 a pupil, disciple.
virocana m. 1.65.2 fire.
viśvakadru m. 1.115.5 a dog trained for the chase.
viṣa n. 2.59.7 a kind of vegetable poison (*brahmaputra*—Com.)
viṣamanetra m. 1.179.6 N. of Śiva.
viṣṭi f. 1.427.4 rain.
**viṣvaṇana* n. 2.87.27 smacking the lips in eating.
viṣvāṇa m. 1.134.6 eating, dinner.[94]
**vistāra* m. 1.462.22 the branch of a tree with its new shoots.[95]
visra n. 1.123.5 (*apakvaṁ viḍgandhaṁ*—Com.)
vṛkṣotpala m. 2.6.2 Pterospermum Acerifolium. (*karṇikāra*—Com.)
vṛṣa m. 2.204.2 a mouse or rat.
**vekaṭa* m. 1.238.12 a jeweller.
vedaṇḍa m. 1.291.4 an elephant.
vehat f. 2.186.2 a cow that miscarries (*galitagarbhā gauḥ*—Com.)[96]
vaikakṣaka n. 1.396.5 an upper garment, mantle.[97]
vyañjana m. 1.205.6 a fan.
**vyuṣṭa* n. 1.300.16 day-break.
**śataparvā* f. 1.283.10.-11 dūrvā grass.
**śabdagraha* m. 1.89.30 the ear.
śabdāla mfn. 1.248.3 sonorous.
śamala n. 2.244.16 feces, ordure.
**śamphalī* f. 2.51.19 a procuress.
śambhalī f. 2.188.7 a procuress.
śayālu m. 2.214.2 the boa snake.
**śarīrarakṣaka* m. 1.323.29 a body-guard.
śālāvṛka m. 2.186.6 a dog.
**śāsanahara* mfn. 1.539.12 a messenger, envoy.
śikharin m. 1.163.6 a tree.
śiphā f. 1.542.5 a branch (of a tree).
śiva m. 1.133.1 final emancipation.[98]
śivatā f. 1.275.6 the state of final emancipation.[99]
śivapriya m. 2.195.5 the thorn-apple (*dhattūravṛkṣa*—Com.)
—n. 2.195.5 Agati Grandiflora.[100]
śiśvidāna mfn. 1.141.8 guilty, sinful.

94. *Cf. viṣvāṇa* m. noisy eating L (*MW*).
95. The Com. cites, "*vistāro viṭapo striyāṁ* and *skandhād ūrdhvataroḥ śākhākaṭapro viṭapo mataḥ.*"
96. *Cf. vehat* f. a cow that desires the bull, or a pregnant cow L(*MW*).
97. *Cf. vaikakṣa* n. an upper garment, mantle L(*MW*).
98. *MW* records it in neuter in this sense.
99. To be derived from *śiva* n. meaning 'final emancipation.'
100. The Com. cites, *śivamallī pāśupata ekāṣṭhīlo vuko vasuḥ śivapriyam iti.*" *MW* records it in masculine as from L.

śītabhīru m. 1.105.21 Jasminum Zambac (*mallikā śītabhīrupuṣpaviśeṣāḥ*—Com.)

śuci m. 1.408.3 fire.

**śuṇḍāla* m. 1.469.30 an elephant.

śūrpakārāti m. 1.41.4 enemy of Śūrpaka, N. of Kāma (god of love).

śephālī f. 1.609.5 Vitex Negundo (*nirguṇḍī*—Com.)

**śauktikeya* n. 1.57.7 a pearl.

śravas n. 2.42.8 the ear.

**śrāṇā* f. 2.88.28 rice gruel.

śrīphala m. 1.459.4 the Bilva tree (*śirobilvabandhana*—Com.)

**śrutadevatā* f. 2.13.24 goddess of learning, N. of Sarasvatī.[101]

**śvetagarut* m. 1.571.22 white-winged, a goose.[102]

śvetapiṅgala m. 2.186.7 a lion.

ṣaṭprajña m. 1.442.1 a dissolute man (*viṭa*—com.)

ṣiṅga m. 1.103.2 libertine, gallant or the keeper of a prostitute (*kāmuka*—Com.)

saṁgīrṇa mfn. 1.437.9 agreed, promised.

saṁcārikā f. 2.19.2 a procuress, go-between.

saṁdarbhita mfn. 1.342.4 strung together, composed, arranged.

saṁveśa m. 2.37.2 a kind of sexual union.

sandhinī f. 2.186.2 (*garbhiṇī satī vṛṣabheṇākrāntā gauḥ*—Com.)[103]

samāṁsamīnā f. 2.186.1 a cow which calves every year (*prativarṣaprasūtiḥ gauḥ*-Com.)[104]

samīkṣā f. 2.170.5 N. of the Sāṁkhya system of philosophy.[105]

**samudranavanīta* n. 1.609.25 the moon.

sarja m. 1.543.3 Terminalia Tomentosa (*asanavṛkṣa*—Com.)

sahadevā f. 2.194.5 Sida Cordifolia (*balā*—Com.)

**sahasradaṁṣṭrin* m. 1.67.29 a fish.[106]

sādi m. 1.335 .2 a charioteer.

sāmaja m. 1.31.7 an elephant.

sāraṅga m. 1.349.3 an elephant.

sāvitra m. 1.466.1 the sun.

sindūra m. 2.167.1 (*garbhanāga*—Com.)

sudarśanā f. 2.194.5 Coculus Tomentosus (*auṣadhiviśeṣa*—Com.)

sudhā f. 1.352.8 water.

sudhāndhas mfn. 2.109.9 feeding on nectar.[107]

suragiri m. 1.172.4 god's mount, mount Meru.[108]

101. *Cf. śrutadevī* f. N. Sarasvatī L(*MW*).
102. *rājahaṁsānāṁ śvetagarutām*—Com.
103. *Cf. sandhinī* f. a cow which has just taken the bull, a cow milked unseasonably or every second day L(*MW*).
104. *Cf. samāṁsamīnā tu yā sā prativarṣaṁ prajāyate*—*abhidhānacintāmaṇi*. Not recorded by *MW*.
105. *Cf. samīkṣa* n. N. of Sāṃkhya system of philosophy L (*MW*).
106. *MW* gives 'a sort of sheat fish.'
107. *MW* records it as substantive a. from *Pārśvanāthacarita*.
108. *MW* gives reference to L and *Bālarāmāyaṇa*.

suvratā f. 2.186.2 a cow that is easily milked. (*sukhasaṁdohā gauḥ*—Com.)
sūrin m. 1.291.3 a wise or learned man, scholar.
sūryamaṇi m. 1.251.4 the sun-stone, sun-gem.
**sūryasārathi* m. 1.237.18 the Sun's charioteer, Dawn.
sūryāśman m. 1.183.7 the sun-stone.
**sṛṇikā* f. 2.222.26 spittle, saliva.
sṛpāṭī f. 2.11.2 a small book (*pustaka*— Com.)
**sevantī* f. 1.105.25 the Indian white rose (*śatapatrī sevantīpuṣpāṇi*—Com.)
sairibhī f. 1.399.6 a female buffalo.
saugandhika m. 2.18.3 a dealer in perfumes.
sauvastika m. 1.452.10 a family brāhmaṇa or priest.
**skandhāvāra* m. 1.451.23 an army.
sthavi m. 1.199.4 fruit.
sthānīya n. 1.88.6 a town or large village (*aṣṭaśatagrāmapratibaddhaṁ nagaraṁ*--Com.)
**sthāpatya* m. 1.371.16 a guard of the women's apartments.
sparśana m. 1.548.25 air, wind.
sphaṭika 1.254.8 camphor.[109]
sphāra m. 1.39.5 abundance.
smaramandira n. 2.35.4 abode of love, female organ.[110]
svāmin m. 1.452.2 N. of Viṣṇu.
**haḍḍa* n. 1.117.11 a bone.
hadana n. 1.509.17 evacuation of excrement or ordure.
haraṇi m. 1.182.3 heaven.[111]
harṣaṇa m. 1.318.2 the 14th of the astronomical *Yogas*.
hala (in *halājīva*) n. 1.459.3 a plough.
halā (in *halājīva*) f. 1.459.3 the earth.
hāra m. 1.459.3 a brick-house?[112]
hiñjīra m. 1.78.6 an anklet.[113]
**himavālukā* f. 1.39.11 camphor.
hṛdyāṁśu m. 1.241.3 pleasant-rayed, the moon.
heṭha mfn. 2.233.1 (*bādhākara* --Com.)[114]
hemapuṣpaka m. 1.106.8 Michelia Champaka (*campakair hemapuṣpakaiḥ* --Com).

109. *Cf. sphaṭikā* f. camphor L(*MW*).
110. Also used by the Com. 1.175.32, 1.527.13 etc.
111. *Cf. haraṇi* m. death L(*MW*).
112. The Com. cites, "*iṣṭikānicayo hāro, haro muktāgaṇaḥ smṛtaḥ*.
113. *Cf. hiñjīra* m. rope or chain for fastening an elephant's foot. L(*MW*).
114. *Cf. heṭha* m. hurt, injury, L(*MW*).

KAPYĀSAM PUṆḌARĪKAM

By

J. A. B. Van Buitenen

One of the most touching stories of Indian hagiography is the one that describes the rupture of the Vaiṣṇava saint and philosoper Rāmānuja with his teacher Yādavaprakāśa. This Yādavaprakāśa—not to be confused with his namesake the ' bhedābhedavādin '—was a follower of Śaṅkara, for whom the all-powerful and all-merciful God of religion was but an unreal projection of the impersonal brahman. Differences had already been many, but the final rupture came at last on the day when the teacher was explaining *Ch.Up.* 1, 6. 6-7 to his pupils : " Verily, that Golden Person who is beheld within the orb of the sun, with golden beard and golden locks, all golden even unto the tips of his fingers : his eyes are like the lotus resembling a monkey's posteriors. " Thereupon the young Rāmānuja shed a tear and the tear rolled down his cheek, dropped and burnt into the thigh of his teacher.[1]

Yādavaprakāśa followed here Śaṅkara's interpretation[2] of this śruti *tasya yathā kapyāsaṃ puṇḍarīkam evam akṣiṇī,* which reads : *tasya yathā kaper markaṭasyāsaḥ kapyāsaḥ / āser upaveśanārthasya karaṇe ghañ*[3] */ kapipsṛṣṭhānto yenopaviśati / kapyāsa iva puṇḍarīkam atyantatejasvy evam asya devasya*[4] *akṣiṇī.* Roth has adopted this meaning and registers in pw s. v. *āsa* the meaning " Gesäss " for the last term of the compound *kapy-āsa.* Boethlingk[5] rejects this and adopts a variant *kapilāsa* "with reddish pollen " which, however, is a *lectio facilior* not borne out by the oldest testimonies at our disposal. Deussen, as always followed by Hume,[6] treats *kapyāsa* as a name for a lotus of a certain kind. Senart[7] does not

1. *Srī Rāmānuja Campū by Rāmānujācārya*, ed. by P. P. Subrahmanya Sastriyar (Madras 1942), p. 37 f.
2. *Chāndogyōpaniṣadbhāṣya* 1, 6, 7.
3. On the authority of Pāṇini 3, 3, 19 *akartari ca kārake saṃjñāyām* " (nouns formed with suffix—a to vrddhied root occur not only in the meaning of the root (as per 3, 3, 18 *bhāve*) , but also) in the sense of any kāraka, except agent, provided it be a technical term " ; Siddhāntakaumudī cites, inter alia, *prāsa* " missile."
4. Note that in his *Brahmasūtrabhāṣya* 1, 1, 21 Śaṅkara explains this deity as merely a glorified individual soul, not even the Paramapuruṣa, which view Rāmānuja counters in *Srībhāṣya* 1, 1, 21.
5. Otto Boehtlingk, *Khândogjopanishad*, kritisch herausgegeben und übersetzt (Leipsic 1889) ; he translates " mit röthlichem Blütenstaube " and notes in his *Anmerkungen* : " *kapyāsa* soll nach S. ein Affengesäss bezeichnen. Ein schönes Beiwrot der Lotusblüte.' *āsa* Asche, Staub könnte wohl, wie Roth annimt, auch den Blütenstaub bezeichnen." The fact remains that not only Ś. reads *kapyāsa*, but also Ṭaṅka, as is clear from the interpretations given below. If the lectio *kapilāsa* had had any currency it would no doubt have been eagerly utilized by the commentators.
6. Paul Deussen, *Sechzig Upanishad's des Veda* (Leipsic 1921) ; R. E. Hume, *The Thirteen Principal Upanishads* (Oxford 1934[2]).
7. E. Senart, *Chândogya Upaniṣad* (Paris 1930) p. 9, n. 1.

want to commit himself on the term but leans towards DEUSSEN's explanation. RADHAKRISHNAN[8] follows Śaṅkara as usual, but renders the compound tactfully by "red". Excepting BOEHTLINGK, no one has tried to improve really upon Śaṅkara's etymology which nevertheless they are loth to accept.

The term is worth considering. In spite of its seeming transparency it appears that the compound was, long before Śaṅkara, explained in not less then six different ways—a sure sign that the originally intended meaning of the term was no longer known. All six are found in the oldest known gloss on the *Chāndogya Upaniṣad* by a Vākyakāra known under the names of Brahmanandin Ṭaṅka Ātreya. This Vākya has been commented on by Dramiḍa and has since been transmitted with this Bhāṣya, which seems to have carried great authority in pre-Śaṅkara Vedānta.[9] If we are to believe Ānandagiri, Śaṅkara knew and consulted the Dramiḍabhāṣya when he composed his Upaniṣadbhāṣya. Both Ṭaṅka's Vākya and Dramiḍa's Bhāṣya are now lost but for a few fragments ; but Sudarśanasūri, commenting on Rāmānuja's Vedārthasaṃgraha, quotes one of Ṭaṅka's six explanations literally and describes the other five.

Not only does Ṭaṅka's antiquity justify a reconsideration of the term, but also is Śaṅkara's interpretation for from convincing. His *āsa*—in the sense of "seat of the body" is, as far as I know, not attested elsewhere. The comparison raises difficulties : there are two *upamās* : "Just as the lotus is *kapyāsa*, so are the eyes of the God." Śaṅkara ignores the gender when he paraphrases : "Just as the lotus is like a *kapyāsa*, i.e. very flashy, so are the God's eyes." Besides, is "flashiness" really the *tertium comparationis* ? The *puṇḍarīka* is generally the white lotus, which may be described as brilliant, no doubt, but is hardly comparable either to a monkey's seat or to a person's eyes. DEUSSEN's solution of a generic name is facile and solves nothing.

It is easier to reject previous explanations than to offer a better one. Moreover, we may wonder whether we are supposed to understand the word : there are other instances where upaniṣadic thinkers used cryptic words whose occult meanings could be understood only by the initiated. But a few observations may be made which shed light on the choice of the term for the context to which it belongs.

In the order to discover, not necessarily the "real meaning" of the word, but its associations which may be more significant, we must consider the context where a sun-like divine personality is described who is all golden—and golden means in this age "reddish" rather than "yellowish"—and whose eyes, themselves the microcosmic correspondents of the sun, are also reddish. The puṇḍarīkākṣa among

8. S. RADHAKRISHNAN, *The Principal Upanishads* (London, 1953), p. 348.

9. For the sake of brevity I refer to my *Rāmānuja's Vedārthasaṃgraha* (Poona 1956), Introduction II, where these matters are discussed, and Appendix where the extant fragments are shown against the *ChUp.* passages, and translated.

the gods is Viṣṇu *alias* Hari, whose connexions with the ancient Puruṣa are intimate. The term *puṇḍarīka* is not an indifferent word for lotus : it is the word for " mystic lotus " *par excellence.* Indeed, almost every word of the context is charged with mystical association and *sousentendus*, so much so that we should be over-cautious in taking the sense of such a bizarre word as *kapyāsa* for granted.

Of the eyes which are *kapyāsa* it is said later : *atha ya eṣo 'ntar akṣaṇi puruṣo dṛśyate...tasyaitasya tad eva rūpaṃ yad amuṣya rūpaṃ yan nāma tan nāma* : " that person who is beheld within the eye . his form is the form of that one (in the sun)... the name of one is the name of the other " (1. 7, 5,). This total identity, expressed by means of the two fundamental principles of individuality, name and form, of the macrocosmic Person in the sun and the microcosmic Person in the eye the latter again likened to a lotus which is " reddish—gives a peculiar significance to our term. For this Person is not only sun and eye or within it, but also *puṇḍarīka* or within it. BĀUp. 2, 3. 6. has: *tasya haitasya puruṣasya rūpaṃ... yathā puṇḍarīkam.* The lotus figured from of old as a 'symbol of the puruṣa; and, in so far as this puruṣa is also symbolized[10] in the the sun—is indeed the solar creator or his descendant and heir the lotus represents the sun. There is a suggestive parallelism between lotus and the sun: the immaculate splendour of the lotus arising from water and mud, untouched and transcendent on its talk, has always struck the Indian poets and the artists have made the most of this symbolism of sun and lotus.[11] There is more to it : the ancient creation myths of the world arising from the waters and the old associations of *agni apāṃ napāt* form also part of the whole complex of microcosmic and microcosmic interrelations of sun, lotus and personal demiurge. The divine lotus[12] from which Brahmā mahātejāḥ, the universal creator, emerges on the navel of Nārāyana floating on the primaeval waters is undoubtedly the same lotus.

For there was a great mystery concealed in the cup of the lotus : *atha yad idam asmin brahmapure daharaṃ puṇḍarīkaṃ veśma daharo 'sminn antar ākāśaḥ / tasmin yad antas tad anveṣṭavyaṃ tad vāva vijijñāsitavyam* (*ChUp.* 8, 1,1); and the uninitiated, who do not understand how the inside of a lotus can conceal a mystery, are told : *yāvān vā ayaṃ ākāśas tāvān eṣo ' ntar hṛdaya ākāśaḥ ...sarvaṃ tad asmin samāhitam* (ib. 8, 1, 3). Aruṇa, whose name shows his preoccupation with the sun, described and elaborated the same image as follows : *asau vā āditya devamadhu ..ṛgveda eva puṣpaṃ tā amṛtā āpaḥ......etaṃ ṛgvedam abhyatapan / tasyabhitaptasya yaśas teja indriyam vīryaṃ annādyaṃ raso ' jāyata / tad vyakṣarat tad ādityam abhito ' śrayat / tad vā etad ādityasya rohitaṃ rūpam* (*ChUp.* 3, 1, 5) : every time it is this flower

10. GONDA, discussing the lotus as Viṣṇu's emblem (J. GONDA *Aspects of early Viṣṇuism* (Utrecht 1954), p. 104, n. 52) warns : "This term symbolism of the lotus, is not correct, because the ancient Indians, like other peoples in their circumstances and of their cultural niveau, did not look on a lotus-flower as a mere outward sign of a principle or a divine ' concept '; for them it was a visible representation, the very embodiment of the divine itself."

11. *Cf.* J. N. BANERJEE, *IA*, 54, p. 161.

12. *Cf.* e.g. *MBh.* 12, (Crit. Ed.) 175 (= B 182).

which, as ṛc, yajuḥ, sāman, (atharvāṅgirasa) itihāsapurāṇa and as bráhman, is the object of the creative power of tapas and so produces the red, white, black and ultra-black, and the colourless throbbing in the centre of the sun : the five aspects under which the existent beings and things are grouped. And every time after the mention of the *puṣpa* follows : *tā amṛtā āpaḥ* there are the eternal Waters, " wholly outside the laboured flower-honey metaphor, which can be understood only as the primaeval Waters from which this flower arises.

Not less intimate than here is the association of the lotus with the sun in *AthV.* 10, 2, 31-32.

aṣṭācakrā návadvārā devā́nām pū́r ayodhyā́ |
tásyāṃ hiraṇyáyaḥ kóśaḥ svargó jyótiṣā́vṛtaḥ ||
tásmin hiraṇyáye kóśe tryáre trípratiṣṭhite |
tásmin yád yakṣám ātmanvát tád vaí brahmavído viduḥ ||

Here the metaphors are deliberately mixed and microcosmic and macrocosmic imagery intermingled to convey the all-comprehensiveness of the mystery within that golden flower-cup. Likewise *AthV.* 10, 8, 43 :

puṇḍárīkaṃ návadvāraṃ tribhír guṇébhir ā́vṛtam |
tásmin yád yakṣám ātmanvát tád vaí brahmavído viduḥ ||

The wondrous person within that golden flower-cup, the golden seedvessel of sun and lotus, is also Hiraṇyagarbha " the Golden Seed, " of whom the *Ṛgveda* relates :

hiraṇyagarbháḥ sám avartatā́gre bhūtásya jātáḥ pátir éka āsīt | " in the beginning the Golden Seed came to be, and when he was born he became the one lord of creation " (10. 121. 1). This Golden Seed is borne by the waters (ib. 7), like Viśvakarman who is the father of the eye,[13] the all-seeing one[14]:

tám íd gárbhaṃ prathamám dadhra ā́po
yátra devā́ḥ samágacchanta víśve |
ajásya nā́bhāv ádhy ékam árpitam
yásmin víśvāni bhúvanāni tasthúḥ ||

This Golden Seed was also conceived of as an egg. The primaeval waters, desiring to bring forth, produce tapas which becomes a golden egg (*ŚatBr.* 11, 1, 6, 1). Elsewhere Prajāpati produces this egg from the waters by tapas (*ib.* 6, 1, 1, 10), just as later on Brahmā the Hiraṇyagarbha, who is born from the lotus that arises in the navel of the one God of the Waters Nārāyaṇa, creates the egg of the world :

13. *ṚV.* 10, 82, 1.
14. *ṚV.* 10, 81, 2 ; for Viśvakarman's solar connexion, cf. 10, 170, 4.

a telling example of how all these images exist on in an age which feels no longer their coherence.

Was this Seed already in *ṚV.* 10, 27, 16 described as *kapila* ? The text gives no clue. But we can fallow the traces of the golden seed, who is also the solar puruṣa, the first creator and first creature, down through the upaniṣads until we find him described as *kapila.* In *hiraṇmayaḥ puruṣa ekahaṃsaḥ* (*BĀUp.* 4, 3, 11). another aquatic image joins the others. In *BĀUp.* 5, 15, 1. (*ĪśUp.* 15) the solar imagery prevails, but this poetic evocation begins :

hiraṇmayena pātreṇa satyasyāpihitaṃ mukham /
tat tvaṃ Pūṣan apāvṛṇu satyadharmāya dṛṣṭaye //

" the face of the true one is covered by a golden vessel : open it, O sun, so that He of the true conduct may be seen[15] ! " In *Muṇḍ Up.* 2, 2, 9 We find a conscious reminiscence of[16] -as well as a reply to- *AthV.* 10, 2, 31-32 quoted above :

hiraṇmaye pare kośe virajaṃ brahma niṣkalam /
tac chubhraṃ jyotiṣāṃ jyotis tad yad ātmavido viduḥ //

and 3, 1, 3 reads :

yadā paśyaḥ paśyati rukmavarṇaṃ kartāram īśam puruṣam brahmayonim /

In Śvet *Up.* 4, 12 the person who is the Golden Seed of creation returns :

yo devānāṃ prabhavaś codbhavaś ca viśvādhipo rudro maharṣiḥ /
hiraṇyagarbhaṃ paśyata jāyamānaṃ sa no buddhyā śubhayā saṃyunaktu //

and this great *rudra* ṛṣi is described in 5, 2

yo yoniṃ yonim adhitiṣṭhaty eko
viśvāni rūpāṇi yonīś ca sarvāḥ /
ṛṣiṃ prasūtaṃ kapilaṃ yas tam agre
jñānair bibharti jāyamānaṃ ca paśyet //

It is customary to leave *rudra* and *kapila* here untranslated, as if they were proper names. But *rudra* need not have lost its adjectival value[17] ; it qualifies the *hiraṇyagarbha* who is not equated with Rudra (on the contrary Rudra's incidental claims to sovereignty[18] may have resulted partly from juxtapositions as we have here) but described as "reddish " just as he is described as *kapila, hiraṇmaya* etc.

15. *satyadharmāya*, resuming *satyasya*, is the object with 'case-attraction' of *dṛṣṭaye* ; DEUSSEN, SENART etc. make it the logical subject.

16. as there is another reminiscence in 2, 2, 6.

17. whether " red " or " celestial," *Cf.* PISCHEL, *Vedische Studien* 1 (1888), p. 56, and the recent discussion of MAYERHOFER, Der Gottesname Rudra *ZDMG* 103, p. 140 ff. (*rudras rodas* " himjlisch ") and PISANI, Dennoch Rudra ' der Rote," *ZDMG* 104, p. 137 ff.

18. *Cf. Atharvaśikh Up.*

All these qualifications, whether applied to sun, lotus, *kośa*, *pātra* etc., are applied to the Golden Person concealed under these forms. That the sun, called *rohita* in a well-known passage,[19] is so described is no doubt partially due to the fact that it represents fire, tejas, tapas. The *puṇḍarīka* "white lotus" is called golden or reddish-yellow because of its yellow stamina; *kāñcana* is listed as a word for the *bījakośa* "seed-vessel" of the lotus.[20] The same applies to the *puṣkara* "blue lotus" which in *Harivaṃśa* 3, 12, (299), 2 is called *hiraṇmaya* –cf. 15-16. Though GONDA righly points out that gold is "also a token of an incorruptible nature,"[21] it would seem to me that the golden colour of the seed-vessel which becomes visible when the sun rises and the lotus opens is the primary association. And though the lotus with its form of receptacle may be looked upon as a specifically female symbol,[22] sexual connotations are largely absent; it is the aspect of *matrix* which clearly predominates, the calyx in which lies embedded the golden seed of creation.

Other contents of *kapila* should be understood from its frequent connexions with the sun and the deities associated with it, like *agni* and *hari*. Likewise the well-known myth of the 60,000 sons of Sagara who were burnt to ashes by the sage Kapila Bhagīratha and revived by the floods of the Ganges is likely to have its origin in the evaporation of "the innumerable laughter of the sea," the thousands of rivers and rivulets which vanish in the summer and are replenished by the floods of the rainy season. Interesting is the case of the sage Kapila, the mythical founder of the Sāṃkhya system, who started his career as an epithet of such beings as Hiraṇyagarbha. KEITH[23] is certainly right in seeking his origin in passages like ŚvetUp. 5, 2, Hiraṇyagarbha, first creature born of the primaeval universal creator, played an important part in the creation myths which were the prototypes of Sāṁkhyan cosmogony. That a mythological personality ranking high in a hierarchy is later regarded as the founder of a system that has been developed frcm it is not uncommon: Nārāyaṇa is the founder of Pañcarātra. Kapila, already firmly established in the Mahābhārata as the founder of Sāṃkhya, is still identified with Hiraṇyagarbha in some passages.[24] As the first creature Hiraṇyagarbha could represent the buddhi,[25] which itself originally was a cosmic creative potency; so we find *kapila* used as a term for the Sāṃkhyan buddhi.[26] In this context the frequent identifications of Kapila with Prajāpati, Viṣṇu, Kṛṣṇa and Vāsudeva become intelligible.[27]

19. *AthV*. 13, 1, 6 ff.; *Cf*. 13, 2, 25 where *tapas* is *rohita's* creative power.
20. R. SCHMIDT, Flora Sanscritica: Der Lotus in der Sanskrit Literatur, *ZDMG* 67, p. 462 ff.
21. GONDA, *o.c.* p. 104, n. 52.
22. S. HUMMEL, *Geheimniss tibetischer Malerejen* (Lepsic 1949), p. 5, quoted by GONDA, l.c.
23. A. B. KEITH, *The Sāṃkhya System* (London, no date), p. 9.
24. e.g. *MBh*. 12, 296, 39; cf. *Deussen-Strauss, Vier philosophische Texte des Mahābhāratam* (Leipsic 1906) *ad hoc* (= 310, 40), p. 637.
25. *MBh*. 12, 291, 17; Māṭharavṛtti *ad* Sāṃkhya Kārikā 22.
26. Aśvaghoṣa, *Buddhacarita*, ed. and trsl. by E. H. JOHNSTON (2 vols., Calcutta 1933-36) 12, 31, with translator's note.
27. I refer to SORENSEN's *Index to the Mahābhārata*, s.v. Kapila.

The word *kapi*, from which *kapila* is supposed to derive, is occasionally found listed in the meaning of " sun, "[28] no doubt because the sun is " red and ruddy " : *kapila*. This meaning gave rise to a pseudo-etymology *kapi* " sun " <**kaṃ pibati*, in which at least the relation of sun with water is interesting. Viṣṇu, who is *hari*—an epithet also used for a monkey—, is found described as *kapi*.[29] Has Arjuna's epithet *kapidhvaja* any particular significance in this connexion ? That this inseparable companion of Kṛṣṇa Vāsudeva might have been associated originally with the brightness of day, dawn and lightning[30] is far from impossible.

It is my contention that the term *kapyāsa*, whatever its exact sense, is to be understood within this entire context of associations which we have sketched. It is obviously preferable to the sense of " monkey's posteriors. " We are not justified in putting forth the aesthetic argument that this sense offends our taste as long as we know nothing of contemporary aesthetics—though the descriptions of the Golden Person and his "symbols " surprise by their singular poetic beauty. Of course we cannot disprove that *kapyāsa* may have been a name for lotus by way of *Volkswitz*, though it is difficult to imagine this for other ones than the red lotus; but even then the adoption of the term by the author of our *ChUp.* passage would lend it a significance far beyond the original joke. The fact remains that *āsa* in the postualated sense is further unknown and that *kapyāsa* is never found among the scores of Sanskrit words for lotus.[13]

More to the point is the fact that the *ChUp.* section in which the term occur indulges generally in linguistic occultism. As we have shown elsewhere the text belongs to the context of *akṣara* speculations.[32] The cryptic *tajjalān*, explained as a compound of *tad*—,—*ja*,—*la* and—*an*, may put us on our guard. In our present text the word *udgītha* is taken apart with little pretension to scientific explication. Possibly we have become a little too linguistically minded to understand such fantastic explanations and declare ourselves to easily satisfied with *kapyāsa* in the above meaning because at least it follows the book.

If we now turn to Ṭaṅka's interpretations we should keep in mind that he was, in time and in spirit, nearer to this stage of speculation than Śaṅkara, and his doubtless fantastic explanations should not be summarily condemned : his author too indulged in fantastic explanations. The occasion of Sudarśanasūri's introduction, in his *Tātparyadīpikā* on the *Vedārthasaṃgraha*, of Ṭaṅka's commentaries is Rāmānuja's poetic paraphrasis of this Chāndogya śruti, which begins : *yo 'sāv ādityamaṇḍalāntarvartī taptakārtasvaragirivaraprabhaḥ sahasrāśatasahasrakiraṇāṃśu*

28. pw. s.v. *kapi*.
29. pw. s.v. *hari* ; *Viṣṇusahasranāma* has *kapi*, *kapila* and *kapīndra* ; *Medinīkośa* (pāntavarga 2) *kapiḥ ..madhusūdane* ; *Kalpadrukośa* (p. 322, 46) *hariḥ...kapiḥ* ; the latter kośa has also (p. 436, 6) *puṣkaraḥ...kapiḥ*.
30. *ṚV*. 6, 9, 1 ; 1, 49, 3.
31. Schmidt, *o.c.*
32. I refer to my paper *Notes on akṣara* (Deccan College Bulletin Vol. XVII, No. 3, Dec. 1955, pp. 204).

gaṃbhīrāmbhaḥsamudbhūta–sumṛṣṭanāla–ravikaravikasita–puṇḍarīkāmalāyatekṣaṇaḥ ......*puruṣavaro darīdṛśyate*. On the compound *gaṃbhīrāmbhaḥ* etc. Sudarśana explains that the Vākyakāra had given six meanings, three rejected and three accepted, on which latter three Rāmānuja bases his paraphrasis. The rejected three are 1. *kapyāsa* < *kapi* "sun" + *āsa* "orb"; 2. < *kapi* "monkey" + *āsa* "; back" 3. " slightly opened " (*īṣad vikasitam*).[33] The accepted three are 1. < *kapi* "sun" + *āsa* (*tenāsyate kṣipyate vikāsyate*), on which Ṭaṅka is directly quoted : *ādityakṣiptaṃ vā, śrīmattvāt* " or : thrown (open) by the sun, on account of its brilliance; " this corresponds to Rāmānuja's *ravikaravikasita*— · 2. < *kapi* " stalk " (< *kaṃ pibati*) + *āsa* " seat, place where one is seated ", corresponding to Rāmānuja's *sumṛṣṭanāla* · ; 3. < *ka* "water" + preposition *api* (which may lose its *a*) + " to be, " corresponding to Rāmānuja's *gaṃbhīrāmbhaḥ-samudbhūta*—.

To sum up, we have grounds for rejecting Ś.'s etymology which was endorsed by ROTH. BOEHTLINGK'S adoption of the variant *kapilāsa* is, in view of Śaṅkara's and Ṭaṅka's testimony, not justified. DEUSSEN'S device of explaining the word as a class-name shelves the difficulty. Ṭaṅka's six explanations, including Śaṅkara's, are from a modern scientific point of view curiosities but not therefore devoid of significance : folk etymologies often help us to understand the associations that went with certain terms in certain ages and milieux. Even if we disregard the ' ' meaning ' " sun " for *kapi*, we have to recognize that there were close connexions between *kapi*, *kapila* and the sun or the solar puruṣa, either because of the reddish colour comparable to *hiraṇya* etc., or because of more ancient, possibly non-Aryan relations between monkey, or rather *kapi*, and sun. That *kapila* is known as a word for lotus does not mean that the compound *kapyāsa* only refers to the colour of the flower : to the author the associations of sun, lotus eye and puruṣa were obvious as the context shows. The last member of the compound is obscure : BOEHTLINGK'S suggestion of "pollen" is tempting, in view of the special significance of the seed-vessel of the lotus in this complex, but unfortunately this meaning is not attested. Personally I would consider it a mystical description of the kind *tajjalān* etc. which went with the mystic lotus *puṇḍarīka*. We may compare the " eight-wheeled nine-gated invincible fort of the gods " of *AthV.* 10, 2, 31-32, in which there is a "seed-vessel surrounded by brilliance, " or " the town of the brahman " of *ChUp* 8, 1, 1 : the lotus was primarily the receptable the *abode* of the mysterious being, so we might explain *āsa* as "seat, abode. " We should not try to be too definite about the meaning, but attempt to understand the word within the sketched context of associations in which it was coined, or at least applied. Even then it is not precluded that S. 's profane meaning was recognized and exploited to conceal its mystic content, the mysterious person within.

33. No etymologies given.
34. According to the well-known rule *vaṣṭi bhāgurir allopam avāpyor upasargayor* " Bhāguri approves the elision of *a* in the prepositions *ava* and *api*."

THE LEGEND OF UDAYANA

By

Miss G. V. Davane

1. The immense popularity that the legend of Udayana has enjoyed in Indian literature is evident from the fact that it has been drawn upon by many Sanskrit, Pali and Prakrit authors and has been referred to at many places in Indian literature. Two of Bhāsa's plays (about 4th B.C.) viz. Svapnavāsavadatta and Pratijñā-yaugandharāyaṇa have the Udayana legend as the central theme. Udayana is the hero of two of Śrīharṣa's plays (606-647 A.D.) viz. Ratnāvalī and Priyadarśikā. There is an incomplete and anonymous play Vīṇāvāsavadatta which also deals with an important event in Udayana's life.

Tāpasavatsarāja, a play by Anaṅgaharṣa or Māyurāja and Vatsarājacarita, a poem by Śūdraka also deal with the same hero. The legend is given in full in the Kathāsaritsāgara of Somadeva (between 1062 and 2082 A.D.) and Bṛhatkathāmañjarī of Kṣemendra (about 1035 A.D.). The available fragments of Bṛhatkathāślokasaṁgraha of Budhasvāmin (about 6th Cent. A.D.) give details of some parts of the legend.

In Buddhist literature the legend is given in Palī Dhammapada—Aṭṭhakathā of Buddhaghoṣa, Papañcasūdanī, a commentary on Majjhima Nikāya by Buddhaghoṣa, Sāmavatī—Jātaka and in the Chinese Mūlasarvāstitvavāda—Vinaya and Tibetan Kanjur. In addition to these texts Buddhist canonical literature sporadically refers to some aspects of the legend.

In the Jain literature Kumārapālapratibodha of Somaprabha (1195 A.D.) gives the story of Udayan's birth in Mṛgāvatī Kathā and of his marriage with Vāsavadattā in Pradyotakathā.

In the classical literature references to Udayana are available as back as the Arthaśāstra of Kauṭilya (4th cent. B.C.) which mentions Udayana's name to illustrate how a king can regain his lost power. Kālidāsa in the Meghadūta refers to the elderly persons in the city of Avantī as being conversant with Udayanakathā and enumerates some of the incidents in the story as follows : —

Pradyotasya priyaduhitaraṁ Vatsarājotra jahre Haimaṁ tāladrumavanamabhūdatra tasyaiva rajñaḥ. Atrodbhrāntaḥ kila Nalagiriḥ Stambhamutpāṭya darpādityāgantūn ramayati jano yatra bandhūnabhijñaḥ. Mṛcchakaṭika of Śūdraka (between 4th and 8th cent. A.D.) refers to the rescue of Udayana by Yaugandharāyaṇa through the words of Śarvilaka—Bhavabhūti in his

Mālatīmādhava alludes to one event in Vāsavadattā's life through the words of Kāmandakī: Vāsavadattā, ca pitrā Sañjayāya rājñe dattāmātmānam Udayanāya prāyacchat.

Looking to these and such other numerous references to the story of Udayana-Vāsavadattā one realises the truth of the following remark by Dr. V. S. Sukthankar; "The touching and romantic episodes in their eventful life-history have formed the warp and woof of many an alluring tapestry of love romance deftly woven."

2. A comparative survey of this romance is bound to be interesting. For convenience of study we can divide the legend in 6 parts as follows:—

(A) The early history of Udayana or the story of Mṛgāvatī

(B) Udayana-Vāsavadattā episode.

(C) Udayana-Padmāvatī episode.

(D) Udayana and other heroines.

(E) The birth of Naravāhanadatta.

(F) Udayana's end.

(A) *The early history of Udayana.* Narrative of the KSS.—The second Lambaka i.e. Kāthāmukha gives the story of Udayana's birth as follows:—Śatānīka the king of Kauśāmbī was a son of Janamejaya. When he was invited to heaven by Indra in order to fight on behalf of the gods, he placed the yoke of administration on Yugandhara, the minister and Supratīka, the commander-in-chief. Śatānīka was killed in the battle, queen Viṣṇumatī died after him, and then their son Sahasrānīka becomes the king of Kauśāmbī. Later on he also goes to heaven on being invited by Indra. There he learns that in his former birth he was a Vasu named Vidhūma and nymph Alambuṣā was his wife. Alambuṣā is now born as Mṛgāvatī, the princess of Ayodhyā. While returning he is engrossed in thoughts of Mṛgāvatī, and as such does not even hear the words of Tilottamā, who is calling him. Enraged she curses him, "yayā hṛtamanā rājan na śṛṇoṣi vaco mama / tasyāścaturdaśasamā viyogaste bhaviṣyati // After his return to Kauśambī a messenger is sent to Ujjayinī and the marriage takes place. Now Yugandhara, Supratīka and Narmasuhṛd get sons named Yaugandharāyaṇa, Rumaṇvān and Vasantaka respectively. After some days Mṛgāvatī has a strange pregnancy-longing for a bath in a lake of blood. The king orders a pool to be filled in with juice of lac. When she is taking her bath an eagle takes her off mistaking her for a piece of flesh. Sahasrānīka is consoled by Indra's charioteer Mātali, who had overheard Tilottama's curse. Now Mṛgāvatī is dropped down on Udayaparvata by the bird. She cries helplessly. She is saved from a boa by a divine figure. She falls before a wild elephant but is not crushed by it. Hearing her cry a young ascetic comes there and takes her to the hermitage of Jamadagni.

That sage, who has 'divyadṛṣṭi' assures her that she will give birth to a son there and will be united with her husband. At the proper time she delivers a son.

At his birth are heard the following words from heaven :

śrīmānudayano nāmnā rājā jāto mahāyaśāḥ /
bhaviṣyati ca putro'sya sarvavidyādharādhipaḥ //

Jamadagni performs all the sacraments for him and teaches him all lores. The mother puts an armlet with Sahasrānīka's name on it. Once Udayana, while hunting saw a snake being dragged by a Śabara. Udayana took pity on the snake and released him by giving the Śabara his armlet in exchange. The snake in gratitude said," I am Vasunemi, elder brother of Vāsuki. I am pleased with you. Take this lute, these betel-leaves and the magic art of unfading garland and mark. " Now the Śabara is caught by the guards while he was selling that armlet marked with the king's name. He gives out the facts of how he got it and at the same time a divine voice informs him of the whereabouts of his wife and son. The king then goes there and brings Mṛgāvatī and Udayana to Kauśāmbī with great pomp. Sahasrānīka installs Udayana on the throne. Again divyā vāk foretells how he will rule the entire earth with Yaugandharāyaṇa, Rumaṇvān and Vasantaka as his ministers. Then Sahasrānīka retires to the forest along with his queen and ministers.

3. The BKM gives a similar account in the first guccha of Kathāmukhalambaka. It differes from the KSS in a few minor details At the time of Udayana's birth the voice from heaven refers to him as 'Bhaviṣyaccakrāvartin'. The nāga rescued by Udayana is described as 'Kinnarādhipa' and Dhṛtarāṣṭrasuta. The Vīṇā is named as Ghoṣavatī and in addition to the lute, the betel-leaf and the unfading garland, Udayana gets Lalitā, the sister of that nāga.

4. The BKŚS gives this story in the fifth Sarga, while describing the *dohadasaṁpādana* of Vāsavadattā. Vāsavadattā says that she has a strange longing which she cannot give out. In order to induce her to do so Mṛgāvatī relates her own story. The narration differs from that of the KSS in the following points :-

1. Mṛgāvatī had a desire to see herself clad in red and the whole city also dressed in red.
2. She is taken by the hermits to Vasiṣṭhāśrama.
3. There is no reference to the armlet.
4. Vasiṣṭha had warned the boy not to go to the woods.

One day while playing in a tank the boy sees some snakes who take him to the city of Bhogavatī in the under-world. When the boy informs Vasiṣṭha of his visit to Pātāla he advises him to go there once again. During this second visit he received by way of present the lute Ghoṣavatī with which he can bewitch men and

animals. When Udayana's education is over Vasiṣṭha sends the mother and the son to Kauśāmbī. The guards see Udayana and then the king receives them both.

5. *Buddhist literature* :-

(1) According to the Aṭṭhakathā of Dhammapada, Paraṁtapa, the king of Kauśāmbī, is sitting on the terrace with his pregnant queen wrapped in a red shawl. Just in sport she removes the king's signet ring and puts it on her finger. Just at that time the vulture Hatthiliṅga comes there flapping the wings. The king being frightened runs inside the palace, but the queen cannot. The bird carries her off and leaves her between two branches of a fig-tree on the mountain Himavat. She passes that cloudy and stormy night miserably and gives birth to a son in the early morning. Hence she named him Udena. Nearby lived king Allakappa who had by now become a hermit. She thinks that under the circumstances the best way was to seduce him. They then live together happily. One day the hermit, observing the stars, exclaims, "King Paraṁtapa is dead." She bursts into tears and reveals her identity. She is aggrieved that her son cannot inherit the kingdom. He promises that he would find a way out. He then gives Udena a lute and teaches him a secret formula to tame elephants. By the efficacy of the lute and the formula the head-elephant presents itself before Udena on the third day. The mother gives necessary instructions to the son, informs him of the names of ministers etc. and hands over the red mantle and the signet ring to him. With that Udena mounts the elephant and whispers something in its ear. The elephant is followed by a herd of elephants and thus Udena triumphantly enters Kauśāmbī and claims the kingdom. With the help of the instructions and the things given by his mother he convinces the people that he is the rightful heir to the throne and is crowned as king of Kauśāmbī.

Papañcasūdanī of Buddhaghoṣa gives this part of Udena's history in a condensed form. It is not recorded in the Chinese Mūlasarvāstitvavāda-vinaya and in the Tibetan Kanjur.

6. *Jain Literature* :-

Kumārapālapratibodha of Somaprabha gives the story of Mṛgāvatī to illustrate the importance of chastity.

In the city of Sāketa festivities were held annually in honour of Yakṣa Surapriya. Painting of his resemblance was an essential part of the worship. Unfortunately every year the painter of his picture was soon deprived of his life. The painters in Sāketa tried to run away. It was then decided that the work would go to all families of painters by turn. When it was the turn of an old woman's son he was saved voluntarily by a painter from Kauśāmbī. He took a holy bath, worshipped the Yakṣa with great pomp, painted the picture, and then begged of the Yakṣa to forgive him for the short-comings, if any. The Yakṣa

is propitiated and gives him two boons. He says, "Do not kill anybody hence forward and give me the skill of drawing the likeness of any *dvipada* or *catuṣpada* by simply looking at any one part of the body." The stranger then returns to Kauśāmbī. There king Śatānīka is told by his subjects that his glorious kingdom has one draw back viz. that it cannot boast of a picture-gallery. The king orders for the same, and the same young painter sits to work. He happens to see a toe of Mṛgāvatī and draws her full-size picture right upto the *masībindu* on her breast. The king gets suspicious and gets the young painter arrested and though the painter proves his innocence his right hand is cut off. He then decides to take revenge. Again he propitiates the Yakṣa and with his grace is able to paint with his left hand with equal skill. He paints Mṛgāvatī's likeness and sends it to the licentious Pradyota. As expected, Pradyota, being enamoured of her charms, asks king Śatānīka for her. Naturally a battle follows in which Śatānīka is killed. Mṛgāvatī is very much worried over her *sīlarakṣaṇa*. When Pradyota asks for her hand she sends messages twice. By one she askes him to build a rampart around Kauśāmbī, with bricks from Ujjayinī. By another she makes him fill the city of Kauśāmbī with food and wealth. Then she closes the doors of Kauśambī, so that Pradyota has to wait outside in a dejected mood. She began to think: "If Jiṇa were to come here I shall take to renunciation." As desired by her Jiṇa actually comes there. The gates are then opened and all including Pradyota and Mṛgāvatī, listen to the sermon. The tale of a gold-smith, makes them all full of dejection. Mṛgāvatī salutes Jiṇa, hands over Udayana to Pradyota and with Pradyota's permission she renounces the world. She is followed by queen Aṅgāravatī and seven other wives of Pradyota. The story ends with the conclusion:

sīlavaseṇa lahium kevalanāṇam migāvatī siddhā /
sīlarahio ya patto ayasam kugaim ya pajjoo //

A similar story occurs in Mṛgāvatīcaritra of Maladhārī Devaprabha also.

7. From all these accounts we can come to the following conclusions about Udayana's early history :—

(1) Some kind of mystery surrounds his birth and childhood. He was born when his mother was separated from her husband. The place where he was born is Jāmadagnyāśrama according to KSS and BKM, Vasiṣṭhāśrama according to BKŚS and the hermitage of Allakappa on the mountain Himavat according to Aṭṭhakathā. Thus the place of his birth is some distant hermitage. The name of his father is Sahasrānīka according to KSS and BKM but Śatānīka according to BKŚS and KPP and Paraṁtapa according to the Aṭṭhakathā. Śatānīka is the father of Udayana and the grand-father of Vahīnara according to the Purāṇas also. In PY Pradyota inquires whether his prisoner is 'Śatānīkasya putraḥ' and 'Sahasrānīkasya naptā.' Tibetan Kanjur also refers to Udayana as son of Śatānīka. In KSS and BKM Śatānīka is Udayana's grand-father. It seems

from all these references that Śatānīka is the name of Udayana's father. KSS might have given Sahasrānīka as his son to point out that he was more powerful than his father, and then made him the father of illustrious Udayana. It cannot be definitely said as to why Aṭṭhakathā gives the name as Paraṁtapa. Etymologically the name suggests how he was a terror to his enemies and thus does not differ much from the name Śatānīka.

Except for KSS and BKM we do not find a reference to the armlet worn by Udayana. It seems to have been inserted by the compiler of the Kaśmīrī version of the BK which is more ornate than that of the Nepālī. Udayana was educated by a hermit like Sarvadamana Bharata and Lava-Kuśa.

All versions of the story, except the Jain version refer to Udayana getting his Ghoṣavatī Vīṇā in a miraculous way. It is a gift from the Nāgaloka according to all the three version of the BK; but according to the Aṭṭhakathā it is a gift from the hermit Allakappa. Kaśmīrī version of the BK has elaborated the point by referring to the Vīṇā as a token of gratitude on the part of the Nāga, and by introducing the Śabara, who, like the fisherman in the Śākuntala, becomes instrumental in bringing about the reunion. The ring which serves a similar purpose is present in KSS, BKM and AK; but the purpose served by it in AK is less dramatic than that in the Kaśmīrī version. The reunion is brought about by Vasiṣṭha himself without any fuss about it in the BKŚS. In KSS and BKM it is brought about in a dramatic manner, while in the AK it begins with Allakappa's remark 'Paraṁtapa is dead' and ends with the help of supernatural element viz. the charm for elephant-taming.

According to the AK and the Papañcasūdanī there is no reunion of Mṛgāvatī and her husband, as Udayana claims his father's kingdom after his death. Here the narration of the BK seems more poetic.

As for the manner in which Mṛgāvatī lived when separated from her husband all versions except the Buddhist have depicted Mṛgāvatī as a chaste lady. But the AK and Papañcasūdanī depict Mṛgāvatī in bad colours, where she seduces the hermit Allakappa. This is the most natural and convenient thing that could have been done by a woman in her circumstances.

Prof. Lacote believes that Guṇāḍhya must be drawing upon the same version as used by the Buddhist authors. If that is so why do we find this divergence in the story of Mṛgāvatī? Prof. Lacote says, "The story of Mṛgāvatī has been modified intentionally"; and the reason for this modification, according to him is, "The future Cakravartin (Naravāhanadatta) could not possibly be born from a family in which the least stain could be found."

It is, however, worth noting that this dark side of Mṛgāvatī's life is found in the AK and Papañcasūdanī only. Jains are often supposed to use such myths and

legends in a distorted form. Not only that the Jain versions of the story have not referred to this seduction of the hermit by Mṛgāvatī, but they have given Mṛgāvatī a high rank among persons whose example should be followed. Somaprabha gives her story to illustrate the importance of Śīla. Hence the version of the story used by the AK of Dhammapada seems to be current in a very restricted locality, while the Udayanacarita, which Prof. Lacote describes as existing at Kauśāmbī and consisting of ' a cycle of stories either in writing or handed down by oral tradition, more comprehensive than what has passed into the Buddhist text ', seems to have a wider sway.

(B) Udayana— Vāsavadattā episode.

8. In the KSS the episode covers taraṅgas 3-6 of the Kathāmukhalambaka. In brief it is as follows :—

Udayana, as king of Kauśāmbī leads a life of pleasures. He thinks,

" kularūpānurūpā me bhāryā kvāpi na vidyate
ekā Vāsavadattākhyā kanyakā śrūyate param
kathaṁ prāpyeta sā ceti cintām ekām uvāha saḥ. "

Caṇḍa-Mahāsena of Ujjayinī is worried as to how he can get Udayana to be his son-in-law. He then decides to capture him taking advantage of his fondness for elephant-chase.

He propitiates Caṇḍī and she blesses him. He sends a messenger to Udayana saying, " Come here and instruct my daughter in music." Yaugandharāyaṇa comments on this—

bhuvi vyasanitākhyātiḥ prarūḍhā te lateva yā /
idaṁ tasyā mahārāja kaṣāyakaṭukaṁ phalam //

But he advises Udayana not to have enmity with Mahāsena and gives an account of Mahāsena's family. When Mahāsena was celebrating Indrotsava for his sons Gopālaka and Pālaka, Indra promised him in dream that he would get a daughter. Hence he named her Vāsavadattā. At her birth a divine voice declared, " Her son, an incarnation of Kāmadeva, will be a sovereign of Vidyādharas."

Udayana then sends a counter message, " If you want me to teach, send your daughter here." On hearing this reply Mahāsena begins with his plan. A Mantrahasti is placed in the forest. Udayana cannot realise that it was a mechanical elephant because his mind was absorbed in music and because of the evening dusk. Udayana is taken a captive and led to Ujjayinī. Yaugandharāyaṇa entrusts Rumaṇvān with the affairs of Kauśāmbī and goes to Ujjayinī, along with Vasantaka to rescue his master. In the cemetery he makes friends with a brahmarākṣasa named Yogeśvara. With his help Yaugandharāyaṇa assumes the form of a madman, bald-headed and comic. Vasantaka also appears ugly. In the meanwhile

the prisoner Udayana is asked to teach Vāsavadattā, the art of music, and during the lessons they learn something other than music. Yaugandharāyaṇa now manages to see Udayana and gives him some magic lores to break off the chains and win over the heart of Vāsavadattā. Then Āṣāḍhaka, the elephant-driver in charge of Bhadrāvatī, is won over. Mahāmātra, the elephant-superintendent, is given liquor. One day Udayana kills the two guards and elopes on Bhadrāvatī with Vāsavadattā accompanied by Kāñcanamālā. Yaugandharāyaṇa and Vasantaka wait for them at the house of Pulindaka, the forest-king. When their absence is noticed in Ujjayinī Pālaka pursues them on Naḍagiri but the elephant refuses to fight against his mate. After some time Bhadrāvatī dies as she drinks the water of a stream. It is told by her that she was a Vidyādharī, temporarily born as a Kareṇu. She further informs that Vāsavadattā is a deity.

After some time Udayana comes to Pulindaka's house. Rumaṇvān joins him with a big army. They reach Kauśāmbī safely. Mahāsena sends his congratulations. Gopālaka comes to Kauśāmbī and the marriage is duly celebrated.

The BKM gives a similar account, with a few details dropped. The available fragments of BKŚS do not contain this episode, though Bhadrā refers to it.

9. *Bhāsa plays*. Py. The episode forms the central theme of the play. Pradyota Mahāsena, the king of Ujjayinī is desirous of giving his daughter to Udayana, though he is receiving offers from different suitors every day. Śālaṅkāyana, his minister captivates Udayana by means of a mechanical elephant. When the news reaches Kauśāmbī Yaugandharāyaṇa takes a vow to see that Udayana elopes with Vāsavadattā. A mad brahmin attending the Śāntibhojana gives him a clue for going to Ujjayinī in Unmattakaveśa. Now they enter Ujjayinī. Yaugandharāyaṇa as Unmattabrāhmaṇa, Vasantka as Ḍiṇḍika and Rumaṇvān as a Śramaṇaka. They manage to enter Pradyota's palace and stay there. Vasantaka entertains Vāsavadattā by narrating excellent tales and conveys to Udayana the hints given by Yaugandharāyaṇa, whenever possible. , Many other spies of Yaugandharāyaṇa also are working in Ujjayinī under different garbs. One day Udayana elopes with Vāsavadattā when Vāsavadattā goes out on Bhadrāvatī under the pretext of going for udakakrīḍā. When the fugitives are being pursued Nalagiri refuses to fight against Bhadrāvatī. Finally Mahāsena declares that he looks upon the marriage as lawful and then the wedding festivities are celebrated in Ujjayinī with the portraits of Udayana and Vāsavadattā. Thus the Pratijñā of Yaugandharāyaṇa is fulfilled.

The SV describes a later romance of Udayana; even then it refers to the Udayana-Vāsavadattā episode on and off. In Act IV Padmāvatī inquires whether Udayana was loved by Vāsavadattā also with equal intensity. Vāsavadattā, now Avantikā, unconsciously replies, "Atopy adhikam". When Padmāvatī asks as to how Avantikā could know it, she replies "Yady alpaḥ snehaḥ, sā svajanaṁ na parityajati."

In verse No. 1 of this act the king remembers the incident in Ujjayinī when he fell in love with Vāsavadattā. In Act VI, verse No. 8, Udayana expresses his gratitude to Mahāsena and refers to the events in Ujjayinī as follows :

aham avajitaḥ pūrvaṁ tāvat sutaiḥ saha lālitaḥ /
dṛḍham apahṛtā kanyā bhūyo mayā na ca rakṣitā //

In verse No. 11 he refers to Vāsavadattā as " Mahāsenasya duhitā śiṣyā devī ca me priyā."

In the message to Udayana Vāsavadattā's mother says, " Atha cāvābhyāṁ tava ca Vāsavadattāyāś ca pratikṛtiṁ citraphalakāyām ālikhya vivāho nirvṛttaḥ."

The viṣkambhaka of this act refers to the loss and regaining of Ghoṣavatī vīṇā.

10. The VV (incomplete upto the beginning of the Act IV and anonymous) gives the story of PY with a few but important deviations. The story runs as follows :—In order to solve the problem of Vāsavadattā's marriage Pradyota Mahāsena is propitiating god Śiva with austerities . After some days he stops the austerities as god Śiva has bestowed favours on him in a dream. Śiva appeared before him in his dream and asked him to hand over Vāsavadattā to an ideal youth as described by the god in a verse. Bharatarohaka, the prime-minister, explains to him that every king whom he knew had one or the other defect e.g. Sañjaya, the son of Aśmaka was suffering from a disease causing blood-vomitting and was much addicted to liquor. Darśaka of Magadha was cruel. Then suddenly he remembers that Maheśvara must have referred to Udayana Vatseśvara in that verse. Now the difficulty is how to bring about the marriage. Again Bharatarohaka suggests that if he is taken a captive he would be put to a hard test of adversity to find out if he satisfied the standards laid down by Śiva. Upon this Pradyota puts forth the difficulty that he would be liable to ignominy that he did not keep the engagement fixed with Sañjaya. The difficulty is solved by Bharatarohaka by foretelling that it would not be so, since Udayana will elope with Vāsavadattā in the manner of Subhadrāharaṇa. How to bring Udayana to Ujjayinī? Bharatarohaka is ready with a plan to entrap him with the help of an artificial elephant. He then informs about a curse pronounced on Udayana by the sage Aṅgāraka. Udayana, when a boy, was playing the part of an elephant. His playmates were following him. In the manner of an elephant he tossed about dust, which troubled the sage Aṅgāraka, passing by. Irritated, the sage cursed, " You will be subject to imprisonment and humiliation at the hands of your enemy because of an elephant. The minister Śālaṅkāyana begins with the plan and goes to Nāgavana. Udayana goes forth accompanied by Aupagāyaka, carrying Vīṇā. Udayana plays on the lute, and is all of a sudden surrounded by an army led by Śālaṅkāyana. Śālaṅkāyana explains to him that Mahāsena desires to take him safe to Ujjayinī. Udayana persuades Śālaṅkāyana to be his minister, but cannot

succeed. A battle ensues and Udayana is taken captive. When Yaugandharāyaṇa knows of the incident, he asks Haṁsaka to speed up to Ujjayinī. He himself spreads a rumour that Udayana is dead and writes a letter in a code-language that could be understood only by Udayana and Rumaṇvān. He further says, " I know cakṣurmohinī vidyā. I shall enter pyre and secretly go to Ujjayinī to rescue my master. I shall freely wander in that city in the disguise of a mad-man and shall enter Kauśāmbī along with my master.

The play is left unfinished with the remark of Haṁsaka in the disguise of Diṇḍika, " I have wandered throughout the city of Ujjayinī, let me rest awhile in this temple."

11. *Buddhist literature.* In the DP-AK after describing the marriage of Udayana with Sāmavatī, the story turns to Vāsavadattā episode; Udena had another wife, called Vāsuladattā, daughter of Caṇḍapajjota, king of Ujjayinī. Pajjota heard that Udena's splendour surpassed his own mainly because he could charm the elephants with his magic lute. Hence out of sheer jealousy he contrives to captivate him with the help of a mechanical elephant. In the course of chase Udena is separated from his retinue and is taken to Ujjayini as a prisoner. Pajjota demands that his prisoner should reveal to him the secret elephant-charms. Udena would teach only to one who paid him homage as a teacher. This, Pajjota would never do. He then thought of giving his daughter as a pupil to Udena. He said to Udena, " I have in my house a girl who is hunch-backed. She will stand behind a curtain, yourself in front of it, and then you teach her the formula." He tells Vāsuladattā that she is going to be taught by a leper. The lessons begin. For many days Udena tries to teach, but the pupil cannot learn. Out of impatience he calls her, ' hunch-backed girl '! ' leper ' she retorts.

Thereupon Udena lifts up the curtain and thus the mystery is solved. Now, instead of the elephant-charms they speak of the elopement plan. Vāsuladattā manages to get a conveyance. viz. Bhaddavatī and permission to use a gate of the city. To learn the practical part of the charms, she says that they require a certain herb, which can be obtained at night at a particular hour indicated by the stars. Now people get used to see them passing together through that gate. One day when Pajjota was out on a pleasure-trip, Udena loads Bhaddavatī with gold and silver coins, mounts her along with Vāsuladattā and they run away. When they are being pursued by the guards of Ujjayinī, Udena scatters the gold coins, which detain the guards. They then safely reach Kauśāmbī where the marriage is duly celebrated.

12. The Tibetan Kanjur gives a similar version of the story but with a different beginning. When Udena knew that Caṇḍapradyota of Ujjayini has given leave to the ladies in his harem to move out at night, he goes there in spite of Yaugandhara's warning. Tārā, a pāṇḍavī, attracts him. At the sound of drums

she goes away, after stealing Udayana's ring. Because of it Pradyota comes to know of Udayana's audacity. Once again Udayana and Yaugandhara go to Ujjayinī and stay there. Bharata, the minister of Pradyota causes the house to be surrounded by soldiers. Yaugandhara, and Udayana disguised as a maid-servant, make good their escape. For this Bharata is threatened to death if Udayana is not captured. He then begins his plan. He causes a notice to be issued that the elephant Naḍagiri has run away. A big mechanical elephant is placed in the woods nearby Kauśāmbī. As expected Udayana approaches it and is brought as a prisoner to Ujjayinī. When Pradyota orders that he be killed Bharata says, " let him teach the art of elephant-taming first and then we will kill him." Of course Pradyota cannot be humble before him. If he teaches it to Bharata, he cannot kill his own preceptor. Bharata suggests that he should teach Vāsavadattā. The teacher and the pupil are separated by a curtain. Vāsavadattā has been told that the sight of the prisoner-teacher would be mortal to her. Now anxious Yaugandhara sends his sister Kāñcanamālā to get some news of Udayana. She manages to enter the palace in the disguise of a female beggar and reveals the mystery to the teacher and the student. Now Yaugandhara comes to Ujjayinī as a mad-man named Vasantaka. Vāsavadattā informs her father that now she needs a little practice in the charms. Both get used to go out on Bhadrāvatī. Yaugandhara once collects elephant-excrements and puts these at two places on the road to Kauśāmbī.

Udayana, Vāsavadattā, Yaugandhara and Kāñcanamālā run away mounted on Bhadrāvatī. Bharata pursues them on Naḍagiri. The elephant loses time in smelling the excrements. The fugitives reach Kauśāmbī where the marriage takes place. Udayana gives out his intention of avenging the insult and says that he would not rest till Pradyota is taken a captive and made to learn weaving. A similar story in brief is given in Divyāvadāna—XXXVI. The MSVV of the Chinese does not relate Udayana-Vāsavadattā episode.

Jātaka III 384 (Fausböll) has an allusion to the abduction of Vāsavadattā, which though brief presupposes that the readers are familiar with the details of the legend. When Buddha is in Ghositārāma in Kauśāmbī the female elephant Bhaddavatikā comes to see him and complains against her master Udena. She says, " formerly he honoured me, looked after me, saying : To thee I owe my life, my kingdom and my wife; now he neglects me because I am old and incapable of rendering any service." Buddha then goes to see the king and asks, " where is Bhaddavatikā ? " " I do not know " answers Udena. Buddha takes him to task for this sort of ingratitude, and since then Udena has to pay attention to her as before.

13. *Jain Literature*. In the KPP the episode begins with the story of Abhayakumāra, It is supposed to illustrate the evils of licentiousness as in the case of Pradyota—Pāradārye Pradyotakathā. It runs as follows :—Vāsavadattā, the

princess of Ujjayinī, was well-versed in all arts. Her father Pajjoya desires to bring Udayana to instruct her in music.

He is caught by means of a mechanical elephant. The prisoner is asked to teach the princess, with the warning, " mama dhūyā kāṇā. Sā tumam daṭṭhūṇa mā lajjau ti."

' My daughter is quint-eyed. Let her not be ashamed of you '. She is told, ' vajjihāo koḍhio ', ' The teacher is a leper '. The lessons begin with a curtain between them. One day she intentionally commits a mistake and thus the whole mystery is revealed. The love-affair is known to Kāñcanamālā, a nurse of Vāsavadattā.

Once the elephant Nalagiri gets wild and Udayana alone brings him under control. After sometime Pajjoya invites Udayana and Vāsavadattā to the park in order to give a musical performance as desired by Abhayakumāra.

Now Jogandharāiṇo enters Ujjayinī in the disguise of a mad-man. He gives out his Pratijñā as—

> yadi tāṁ caiva tāṁ caiva tāṁ caivāyatalocanām /
> na harāmi nṛpasyārthe nāhaṁ yaugandharāyaṇaḥ //

He fills four pots with urine and ties these on the back of Bhaddavatī. A blind man, who could interpret cries heard her cry and said,

> kakṣāyāṁ badhyamānāyāṁ yathā rasati hastinī /
> yojanānāṁ śataṁ gatvā tathā prāṇān vimokṣyati //

Then Udayana, taking his Ghoṣavatī mounted Bhaddavatī along with Vāsavadattā and Kāñcanamālā. His friend Vasantaka was the driver. He said before the public—

> eṣa prayāti sārthaḥ kāñcanamālā vasantakaś caiva /
> bhadravatī ghoṣavatī vāsavadattāpy udayanaś ca//

People thought he was going to the park ; but the she-elephant ran in the direction of Kauśāmbī. When Pajjoya knew this he sent soldiers to catch the fugitives. They pursued on Nalagiri. But at every 25 yojanas a pot of urine was broken and Nalagiri wastes time in smelling it. Thus the whole distance was traversed and they reach Kauśāmbī safely.

The story ends by describing how Pajjoya was finally taken as a prisoner to rājagṛha by Abhayakumāra.

14. This part of Udayana's history is the most popular in Indian literature. The points which are common to all the versions of the story are as follows :—

(1) The king of Ujjayinī was eager to capture Udayana and bring him to Ujjayinī.

(2) He was entrapped with the help of a mechanical elephant. (According to the Kanjur a report is spread that Nalagiri has been lost).

(3) Vāsavadattā was given to him as a pupil.

(4) Yaugandharāyaṇa (Yaugandhara according to Kanjur) goes to the rescue of his master.

He stays in Ujjayinī in the disguise of a mad-man. (DPAK does not refer to Yaugandharāyaṇa).

(5) the fugitives ride the she-elephant Bhadrāvatī.

(6) They are pursued by Pālaka according to the Kaśmīrī Bṛhatkathā, —by Bharata according to the Kanjur and by the soldiers according to the KPP —riding the elephant Naḍāgiri. (The elephant is called Naḍāgiri in the Kaśmīrī version, Nalagiri in BKŚS, KPP and PY; and Naḍagiri in the Kanjur. DPAK does not refer to this elephant).

(7) The elephant cannot fight against its mate. (According to the KSS, BKM and PY, he refuses to fight. He loses time in smelling the excrements according to the Kanjur, and in smelling urine according to the KPP).

15. According to the KSS, BKM, BKŚS and KPP Bhadrāvatī dies on the way. According to all the versions of BK, she was a superhuman being born as a female elephant. She was Vidyādharī Māyāvatī according to the Kaśmīrī version and a Guhyakā named Bhadrā according to the BKŚS, which further informs that Nalagiri was a Yakṣa Pūrṇabhadra who was guilty of interceding. The BKŚS further informs us that when she died in the forest of Vindhya, Udayana wept over her loss with such genuine sympathy that she decided to reward him. It is she who later on prepares the aerial car to fulfil Vāsavadattā's pregnancy-longing, sends the auspicious dream foretelling the birth of a son; and after saying that their son would be a cakravartin, she disappears making a breach in the walls of Kauśāmbī, the part being known as Bhadrāvatī's gate.

It is however worth-noting that according to the allusion in the Jātaka she is living for a long time after the marriage of Vāsavadattā. Obviously the two narrations viz. that of Guṇāḍhya and the Buddhist one are following two different versions of the story.

16. Was Pradyota-Mahāsena eager to have Udayana as his son in-law? We learn so from the KSS, BKM, and from the PY and VV which are based on the same. With this desire he is propitiating goddess Caṇḍī according to the Kaśmīrī version. According to the VV he is propitiating Śiva to have a worthy son-in-law. According to the DPAK he arrested Udayana simply out of jealousy and then the marriage takes place against the desire of the father, as is obvious from the use of the curtain. The same holds good of the Kanjur and the KPP also.

In the KPP he wants to bring Udayana to be a music-teacher only. In the Kanjur Pradyota has a genuine grievance against Udayana when he finds Udayana's ring with Tārā.

The Kaśmīrī version of the BK makes Udayana also long for Vāsavadattā before he has to go to Ujjayinī. It would not be out of place to refer here to the following note on Udayana given in 'Hindu Classical Dictionary' of Dowson.

Udayana—A prince of Lunar race and son of Sahasrānīka, who is the hero of a popular story. He was king of Vatsa and is commonly called Vatsarāja. His capital was Kauśāmbī. *Vāsavadattā, Princess of Ujjayinī saw him in a dream and fell in love with him.* He was decoyed to that city, and there kept in captivity by the king Caṇḍamahāsena, but when he was set at liberty by the minister, he carried off Vāsavadattā from her father and a rival suitor.

Mr. M. R. Kale in his notes on Meghadūta, verse 31, gives the story as found in the KSS and there includes the following remark :—" In the meantime Vāsavadattā saw Udayana in a dream and becoming enamoured of him contrived to inform him of her love. "

This part of the story, reminding us of Uṣā-Aniruddha episode could not be traced by me to any available version.

It seems that in the older version of the story there may be no reference to any desire on the part of Vāsavadattā or her father for bringing about the marriage. This embellishment might have been added by the Udayanacarita current near-about Kauśāmbī. When they added this they had naturally to drop the dramatic part of the story referring to the curtain used during the lessons.

17. What was the original name of the king of Ujjayinī ? KSS and BKM alone give Mahāsena or Caṇḍamahāsena as his name and call the king of Magadha as Pradyota. The BKŚS calls him Pradyota-Mahāsena. Same is the case with Bhāsa's plays, viz. the PY, SV and with the VV. SV explains the name as follows :—*asty ujjayiniyo rājā pradyoto nāma. Tasya bala-parimāna-nivṛttaṁ nāmadheyaṁ mahāsena iti.* The SV and VV call the king of Magadha as Darśaka, the VV refers to him as *māgadho rājā darśakaḥ krūraḥ.* The BKŚS refers to Padmāvatī as Māgadhī but the name of her father is not given. The Kanjur refers to Bimbisāra as ruling at Rājagṛha at the same time when Pradyota son of Anantanemi ruled at Ujjayinī. According to all the Buddhist and Jain versions the name of the king of Ujjayinī is Pradyota. The Chinese MSVV calls him Caṇḍapajjota, because he used to get wild if his third call was left unanswered by the sentry.

Obviously his genuine name is Pradyota and Mahāsena may be an appellation as explained by Bhāsa. Somadeva and Kṣemendra seem to have committed a mistake

18. The remark from the MM quoted in section 1 and the play VV refer to one more incident in the life of Vāsavadattā. She was first betrothed to Saṁjaya by the father. According to VV the engagement was broken by Pradyota himself, but according to the MM by Vāsavadattā. The VV refers to Saṁjaya as Aśmakeśvara, who is suffering from a disease causing blood vomitting and is much addicted to liquor. The source of this event remains inexplicable. In the Buddhist legend we find a similar thing about Magandiyā according to the AK and Anupamā according to the Chinese MSVV. She was a daughter of a brahmin who was offered to the Buddha, but refused by him and was later wedded to Udayana. However, the details do not agree with each other. The Buddha is a covetable person. Saṁjaya is not so. Magandiyā or Anupamā is too cruel to be compared with the generous Vāsavadattā.

19. The Ghoṣavatī vīṇā of Udayana, which works miracles like the lyre of Orpheus is referred to in all versions of the story, except the Chinese MSVV. But Udayana's skill in music is referred to in the KSS, BKM, the Bhāsa plays, the KPP and the Kanjur only. According to the DPAK, and the BKŚS he is well known for his elephant-charms. In the BKŚS he gets Ghoṣavatī from the Nāgas in the nether world and with it he bewitches men and animals. In the Gandharvadattālabha during the musical competition Naravāhaṇadatta alone could know the song, as it was formerly revealed to him by Udayana. In the DPAK he received Ghoṣavatī from the sage Allakappa and with three days practice of playing on it he can make the head elephant kneel before him. In that book Udayana is to teach elephant-charms to Vāsavadattā as he was arrested with that motive in view. In the KPP also Udayana alone could tame the elephant Nalagiri when it gets wild. The same event seems to have been referred to by Kālidāsa in his Meghadūta as—atrodbhrāntaḥ kila Nalagiriḥ stambham utpāṭya darpāt-

According to all the versions he used to tame elephants with his Ghoṣavatī. His fondness for elephant-chase is referred to in all the versions, and especially in PY and VV. The author of the latter play skillfully connects his imprisonment by Pradyota to the curse of Aṅgāraka muni, which seems to be an innovation introduced by that anonymous dramatist. He shows how Udayana was interested in elephants since his childhood.

From all these references it is clear that Udayana was more well-known for his skill in taming the elephants. Music must have formed a part of elephant-chase and the KSS and BKM have shifted the emphasis from elephant-charms to music, to make it more poetic.

20. Kāñcanamālā is present in the narrations of the Kaśmīrī Bṛahatkathā, the Kanjur and the KPP. In the Kaśmīrī version she is a friend of Vāsavadattā, in the KPP a nurse of Vāsavadattā and in the Kanjur a sister of Yaugandhara, going to Ujjayinī in the disguise of a female beggar. In later works like the

plays of Śrīharṣa, she is always a friend and maid-servant of Vāsavadattā. Probably the author of Kanjur has made her Yaugandhara's sister going in disguise on the analogy of Yaugandhara himself going in disguise. The auther seems to be fond of disguise motif. Earlier he has made Udayana escape from Ujjayinī in the disguise of a maid-servant.

In all the versions of this story Yaugandharāyaṇa plays a vital role. His *pratijñā* is given in the play by Bhāsa and in the KPP in almost identical words. Somaprabha is utilising some version of the story, which is used by Bhāsa. Of course Bhāsa's own play would be available to him ; but if he is following Bhāsa's version and quoting the pratijñā of Yaugandharāyaṇa in Sanskrit from Bhāsa's play we cannot say from where he gets the reference to the pots of urine. It may be in imitation of the excrement mentioned in Kanjur. But from where is he quoting the Sanskrit verses -kakṣāyāṁ badhyamānāyām, and eṣa prayāti sārthaḥ --quoted in section 13? Did he use some Sanskrit version of the story which combined the use of excrements of Kanjur with the details given by Bhāsa?

21. On studying this Udayana—Vāsavadattā episode Dr. D. R. Bhandarkar in his 'Lectures on the Ancient History of India' believes that the main events in the story seem to be historical. Of course, so far as the elopement tales are concerned literature all over the world is rich in them. In Indian literature even our Purāṇas are full of such tales as Rukmiṇī-haraṇa and Subhadrā-haraṇa. In actual history also elopement incidents were very frequent especially in the Rajput history. The episode of Pṛthvīrāja-Saṁyogitā is an instance in point ; but we must have sufficient grounds to prove that a king of Kauśāmbī eloped with a princess of Ujjayinī.

(C) Udayana —Padmāvatī episode.

22. The story in the KSS (Lāvāṇaka-lambaka)—Udayana is leading a life of pleasures in company of Vāsavadattā, the responsibility of the state being solely on the shoulders of his ministers. Hence Yaugandharāyaṇa is worried as to how he can be a sovereign king. He knows that Pradyota, the king of Magadha is a powerful rival. He thinks of winning him over by seeking the hand of his daughter Padmāvatī, on behalf of Udayana. But Pradyota would not give her as long as Vāsavadattā is alive. Hence he thinks of spreading a rumour that Vāsavadattā is burnt in fire. He starts with the plan. Vāsavadattā and her brother Gopālaka are taken in confidence. Yaugandharāyaṇa explains how Udayana would not die of grief seeing that Gopālaka is not much aggrieved. In order to prepare grounds for the rumour they must go out of Kauśāmbī. Lāvāṇaka, which is near Magadha is the place selected. They persuade Udayana to go there saying that it is suitable for hunting. When they are about to leave Nārada arrives and says, "Follow the counsel of your ministers and you will attain prosperity." He foretells ;

" kaṁcitkālaṁ ca te duḥkhaṁ bhaviṣyati na ca tvayā
tatrātimohaḥ kartavyaḥ sukhāntaṁ bhavitā hi tat

They then go to Lāvāṇaka and one day when the king is out ahunting they set the tent on fire and a report is spread that Vāsavadattā and Vasantaka were burnt in it. Yaugandharāyaṇa is in the disguise of an old brahmin. Vāsavadattā appears as his daughter Avantikā, whose husband, given to vices has gone somewhere leaving her alone and Vasantaka is a *kāṇabaṭu.* They see Padmāvatī in the garden, where Yaugandharāyaṇa hands over Avantikā to her care. Vasantaka also stays there so that Avantikā would not feel lonely. Then Yaugandharāyaṇa leaves under the pretext that he would search for Avantikā's husband. Padmāvatī suspects that Avantikā must be belonging to a high-born family. When she arranges *amlānamālātilaka* for the queen—she had learnt that art from Udayana—Padmāvatī's mother also suspects that she may be a deity in disguise.

Now when Udayana returns from hunting and learns of the mishap he falls in a swoon, but then consoles himself saying, " Nārada had formerly blessed Vāsavadattā that she would give birth to a son, who would be Vidyādharādhipa. He has also told me that I shall have to experience misery for some time. Yaugandharāyaṇa (it is clear that he has now returned to Lāvāṇaka) and Gopālaka do not seem much aggrieved. This may be some strategy of the ministers. " When Pradyota knows of the fire accident he desires to give his daughter to Udayana, as it was formerly desired by Udayana's ministers. Pradyota's proposal is accepted by Udayana on the advice of Yaugandharāyaṇa. He says to himself " *pracchāditaitadarthaṁ syād devī jātucit.* " The wedding takes place in Magadha on the seventh day.Once again Avantikā arranges *amlānamālātilaka*. Udayana feels suspicious. The next day they return to Lāvāṇaka. Avantikā also is accompanying Padmāvatī. She cannot stand separation any longer, goes to Gopalaka's room and clings to his neck out of helplessness. This is intentionally reported to Padmāvatī by the ministers. In the meanwhile Udayana inquires about the *mālātilaka* and getting suspicious goes to Gopālaka's room. Padmāvatī follows and there the reunion takes place. Yaugandharāyaṇa gives out the plan and assures of Vāsavadatta's chastity.

magadheśasutālābhāt tava sāmrājyakāṅkṣiṇā
kṛtam etan mayā deva devyā doṣo na kaścana
iyaṁ tv asyāḥ sapatnyeva pravāse śīlasākṣiṇī
ity uvāca vatseśaṁ dhīro Yaugandharāyaṇaḥ.

even then Vāsavadattā thinks of *Agniśuddhi.* Yaugandharāyaṇa prays to Lokapālas. " Please stand witness to her chastity or I shall end my life. " A divine voice proclaims to that effect. Then all proceed to Kauśāmbī.

The BKM gives a similar account. The prophecy about Padmāvatī is more explicit there. Yaugaṁdharāyaṇa informs Rumaṇvān and others

"Cakravartivadhūḥ sā hi bhāvinīti śrutaṁ mayā." Reason for Udayana's consenting to the marriage proposal is given as follows : -

priyaṁ prāpsyasi tāṁ prāpya śrutveti sacivān nṛpaḥ
amanyata nijodvāhaṁ virahānaladuḥsahaḥ

the BKŚS—in the fourth Sarga (verses 13-20) relates how Udayana has no child, though he has two wives Vāsavadattā and Padmāvatī. The narration is brief and proceeds in a manner presupposing the acquaintance of the readers with the personages referred.

Padmāvatī is repeatedly called Māgadhī, but her father's name is not mentioned. Later on in the Madanamañcukālābha Padmāvatī is found associating herself with the affair of Kaliṅgasenā.

23. The SV of Bhāsa has this episode as the main theme. The story in brief is as follows :- -

Udayana defeated by Āruṇi is staying at Lāvāṇaka nearby. When he is out on chasing expedition, a rumour is spread that Vāsavadattā and Yaugandharāyaṇa were burnt in fire. This was the beginning of a strategic plan of the astute politician Yaugandharāyaṇa. He wanted to bring about the marriage of Udayana with Padmāvatī, the sister of Darśaka, king of Magadha. Yaugandharāyaṇa and Vāsavadattā leave the place secretly and now Yaugandharāyaṇa disguised as an ascetic and Vāsavadattā as an ordinary girl from Avantī proceed towards rājagṛha. They meet Padmāvatī in a tapovana on the way. When she asks the ascetics to choose whatever they wanted Yaugandharāyaṇa takes advantage of the offer and requests her to protect his sister i.e. Vāsavadattā till her husband, who has gone on a long journey returns.

A young student from Lāvāṇaka informs us how much Udayana mourned over Vāsavadattā's death. In the second act we know that Darśaka has offered his sister to Udayana who had come to rajagṛha on some business. In the third act Avantikā is weaving the wedding garland for Padmāvatī. In the bifocal scene in Act IV Vasantaka puts a simple question to Udayana, "whom do you like better, Vāsavadattā or Padmāvatī ?" This acutely reminds Udayana of Vāsavadattā and he bursts into tears. In act V Padmāvatī is suffering from headache. Udayana accompanied by Vasantaka goes to Samudragṛha to inquire of her health. While waiting for Padmāvatī Vasantaka's narration lulls him to sleep, and Vasantaka leaves in order to bring his garment. Avantikā comes to Samudragṛha to comfort Padmāvatī. The sleeping king is mistaken by her for Padmāvatī and she lies down by his side. As Vasantaka's narration referred to Ujjayinī Udayana's sub-conscious mind is roving about in Ujjayinī and in dream he addresses his beloved "priye Vāsavadatte," Vāsavadattā realising her mistake thinks of going away ; but she cannot help answering the questions of the dreaming king. Then she

hurriedly places his hanging hand on the bed and goes away. The king wakes up only to be lost in his grief of separation. Towards the end of the act we learn that Darśaka has sent his army to fight against Āruṇi. In the last act Ghoṣavatī, which was lost somehow comes to Udayana's hand and his grief of separation from Vāsavadattā is aggravated. Meanwhile Āruṇi is defeated by Darśaka's army. Messengers bringing congratulations from Ujjayinī also hand over by way of present the portraits of Vāsavadattā and Udayana, with which Mahāsena had celebrated the marriage. Padmāvatī is struck by the close resemblance between Vāsavadattā's portrait and Avantikā. Yaugandharāyaṇa disguised as an ascetic comes and demands back his deposit. Vāsavadattā comes, her veil is removed and thus the lovers are reunited. The whole party then thinks of a trip to Ujjayinī.

Tāpasavatsarāja of Anaṅgaharṣa calls the king of Magadha as Darśaka. According to the ruse of Yaugandharāyaṇa Udayana is in the disguise of an ascetic and Vāsavadattā appears as a nun. The marriage with Padmāvatī, the daughter of Darśaka is brought about. When both Udayana and Vāsavadattā are attempting suicide Yaugandharāyaṇa stops them and then the reunion is brought about.

24. Padmāvatī has no place in the Buddhist and Jain literature. But in the Buddhist literature two more wives of Udena are referred to.

The DPAK:-- Sāmavatī was the daughter of a merchant of Bhaddavatī, who was a friend of the merchant Ghosaka of Kauśāmbī. Due to an epidemic in Bhaddavatī the family comes to Kauśāmbī. Her parents soon die of hunger. She then comes to Ghosita (Ghosaka). Udena sees her and asks for her hand. First the offer is rejected but later on Udena succeeds in persuading Ghosita, and then the wedding takes place.

(Then occurs the story of Vāsuladattā).

Udena had one more wife, Māgandiyā, the daughter of a brahmin. She was offered by her parents to the Buddha who refused her hand. Then the parents renounce this world and Māgandiyā is handed over to her uncle Māgandiya, who hands her over to Udena. Now Māgandiyā has a grudge against the Buddha, while Sāmavatī is a devotee of the Buddha. When the Buddha is in Kauśāmbī, she sees him though a crevice in the wall. Māgandiyā poisons the ears of Udena against her, and tries various tricks to prove that she has illegal relations with the Buddha. When Udena tries to shoot her, the arrows return to the bow and hence Udena recognises her power. She is then given permission to invite the Buddha. Ānanda with 500 monks comes and preaches her and her maids. When Udena was away Māgandiyā with the help of her uncle burns Sāmavatī along with her 500 maids by setting fire to the harem. Udena, when he returns, kills Māgandiyā and her relatives.

The MSVV of the Chinese gives a similar story, with a few deviations. When the city Roruka is destroyed Śyāmāvatī, daughter of a merchant named Bhīru

comes to Kauśāmbī with the nun Śailā, who hands her over to Ghoṣita, minister of Udena, who founds Ghoṣitārāma. Udayana and many other kings seek her hand ; but she chooses king Hatthālavaka of Aṭavī. That king becomes a convert. Even then Śyāmāvatī devotes herself to service of the monks in Aṭavī. When Hatthālavaka dies she returns to Kauśāmbī and marries with Udayana. She is a devotee of the Buddha.

Now the brahmin Mākandaka had a beautiful daughter Anupamā. She was refused by the Buddha. Udayana sees her and the marriage takes place. Then follows a similar account of her jealosy and of the arrows turning useless and of the fire. When the fire breaks out Śyāmāvatī rises in the air, delivers a sermon and then falls in the flames.

The same story occurs in the Chinese DP and the Chinese Tripiṭaka.

25. Prof. Lacote cannects this story with that of Padmāvatī. He says, " from the story of Anupamā he has built up, in transforming it, that of Padmāvatī."

He points out that the criminal fire, set by Anupamā leads to the innocent fire at Lāvāṇaka in Padmāvatī's story.

About Śyāmāvatī (Sāmavatī) Prof. Lacote says, " she was very holy and there was no room for her in a love romance. "

But I do not think that there is any connection between the two stories except for the accidental correspondence of fire. Such innocent fire is associated with Udayana in Śrīharṣa's Ratnāvalī also. But it would be too farfetched to connect cruel and vicious minded Māgandiyā or Anupamā with Padmāvatī, who is very kind and generous. The picture of Padmāvatī, as delineated by Bhāsa, Somadeva and Kṣemendra would agree more with Sāmavatī or Śyāmāvatī.

26. In addition to the character of Padmāvatī we can note the following points in Udayana-Padmāvatī episode.

(1) In the KSS and the BKM the reason for going to Lāvāṇaka is hunting only. If that is so why did the party go back to Lāvāṇaka and not to Kauśāmbī after the marriage in Rajagṛha, knowing fully well that the tent at Lāvāṇaka was burnt down? Bhāsa has improved upon this by making Udayana leave Kauśāmbī, as he has been deprived of the kingdom by Āruṇi. In the SV Udayana cannot return to Kauśāmbī till Āruṇi is defeated.

Bhāsa shows many deviations from the story of Padmāvatī as given by Somadeva and Kṣemendra. These are too well-known to be repeated here. In most of the cases Bhāsa has made the story more poetic and dramatic.

But as regards the prohesy about Padmāvatī Kṣemendra is more explicit than Bhāsa. Yaugandharāyaṇa of Bhāsa simply says, "I have heard from the seers that she will be my master's wife," while. Kṣemendra makes him say, "cakravartivadhūḥ sā hi bhāvinīti śrutaṁ mayā."

About the name of the king of Ujjayinī we have already discussed in section 17. If Pradyota is the name of the king of Ujjayinī, naturally that cannot be the name of Magadha king. Bhāsa and following him the anonymous author of Vīṇāvāsavadatta give Darśaka as the name of Magadha king Somadeva and Kṣemendra refers to Madhaga king as Padmāvatī's father. Bhāsa makes Darśaka her brother. Similarly Yaugandharāyana, as an old brahmin introduces Avantikā as his daughter in the Kaśmīrī BK. Bhāsa's Yaugandharāyaṇa introduces her as his sister. In both the cases the relation of father—daughter is substituted by brother-sister.

Does it mean that Bhāsa has intentionally deviated from the story of the BK as was available in his days, and which was later recorded by Somadeva and Kṣemendra? Or is he following some version of the BK different than that used by Somadeva and Kṣemendra? It is not possible to decide the point with the material available so far.

When compared to the Buddhist Versions of the BK it is clear that Padmāvatī is absent in the Buddhist versions while Sāmavatī and Māgandiyā are not found in the Sanskrit versions. The two versions seem to follow two independent developments of the BK, which must be having some common source in earlier stages. Prof. Lacote has discussed in details the common points between the Sanskrit and the Buddhist versions.

(D) Udayana and other heroines.

27. In addition to the well-known heroines Vāsavadattā and Padmāvatī, Udayana's romance with Ratnāvalī and Priyadarśikā has been recorded by Śrīharṣa.

The plot of Ratnāvalī—Ratnāvalī, the princess of Siṁhala, was to be a wife of a sovereign king according to the prophesy of seers. Hence Yaugandharāyaṇa sought her hand for the sake of his master. When the bride's party was travelling to Kauśāmbī it met with a ship-wreck. A merchant from Kauśāmbī found Ratnāvalī ship-wrecked and inferring from her jewelled necklace that she must be a princess, he handed her over to Yaugandharāyaṇa. He presented her to queen Vāsavadattā, introducing her as Sāgarikā, a girl from the ocean. The queen was always on the guard that she should not be seen by Udayana.. Inspite of her precautions Sāgarikā sees Udayana at the Madanamahotsava and the expected result follows. She then draws Udayana's resemblance on a picture-board. A Sārikā

bird is responsible for bringing Udayana and Vasantaka to that kadalīgṛha, where the first meeting of the hero and the heroine takes place. When Vāsavadattā comes there the king is found with the picture-board and she realises that what she feared has already begun. In the third act Vāsavadattā is to be deceived by making Sāgarikā wear the queen's robe and Susaṅgatā that of Kāñcanamālā. Thus they are going to keep an appointment with the king. All this is known to Kāñcanamālā, who informs Vāsavadattā of it. Vāsavadattā herself goes to the place of appointment and the king is caught red-handed. After some time Sāgarikā dressed as Vāsavadattā comes and is about to hang herself out of the unbearable pangs of love. Udayana steps in to stop her and waxes eloquent over her charms, when once again queen Vāsavadattā steps in. Now Sāgarikā, and Vasantaka who is mainly responsible for the mischief, are taken captive. The queen spreads the report that Sāgarikā has been sent to Ujjayinī. In despair Sāgarikā sends from the prison her jewelled necklace to the king through Susaṅgatā. A news is received that the king of Kosala has been defeated by Rumaṇvān. Soon a magician Śrīkhaṇḍadāsa, who is desirous of giving a magical performance presents himself before the king. When the show is going on the prime-minister and the chamberlain from Siṁhala, who were formerly accompanying the princess in the journey to Kauśāmbī appear on the scene. The show is abruptly stopped. They narrate about the shipwreck and loss of the princess. Vāsavadattā laments over the loss of her cousin. That was the relation between Vāsavadattā and Ratnāvalī. Now there is an uproar from behind the curtain, which is due to a sudden fire that has broken. Vāsavadattā remembers that she has kept Sāgarikā in prison in the harem and repents for it. Udayana rushes in to save her. The moment the lovers embrace each other in confusion, the fire disappears all of a sudden. Now only we can realise that it was a part of the magic-show. At the end when Sāgarikā comes on the scene, the party from Siṁhala recognises her. Now Vāsavadattā does not hesitate in giving her over to Udayana and the play ends happily.

28. The story of PD runs as follows :—

King Dṛḍhavarman of Aṅga had a beautiful daughter Priyadarśikā. Her hand was repeatedly sought by the king of Kaliṅga, but Dṛḍhavarman betrothed her to Udayana. Indignant at this insult the king of Kaliṅga, attacked Aṅga and took Dṛḍhavarman a captive. Priyadarśikā is given in charge of the old chamberlain, who takes her to the forest-king Vindhyaketu. As ill-luck would have it Vindhyaketu is attacked by an unknown enemy, who also sets fire to that region. Meanwhile the marriage between Udayana and Vāsavadattā has taken place and Rumaṇvān and Vijayasena are successful in their military expedition against Vindhyaketu. Among the things robbed off there is a beautiful girl—supposed to be Vindhyaketu's daughter. She, known as Āraṇyikā, is now in charge of Vāsavadattā. As in Ratnāvalī here also Udayana and Ārṇayikā fall in love with each other. A mimic representing Udayayana—Vasavadattā episode is composed by the Parivrājikā Sāṁkṛtyāyanī and is to be enacted before the queen.

Āraṇyikā is to play the role of Vāsavadattā and Manoramā, a maid-servant of Vāsavadattā that of Udayana. Manoramā and Vasantaka cleverly manage to make Udayana play his own role therein. Vāsavadattā who is witnessing the play suspects some mischief. She goes to the king's chamber to find if he is there. Vasantaka who is sleeping there gives out the secret in his sleep. The result is imprisonment of Āraṇyikā and Vasantaka. Soon a message is received that Dṛḍhavarman, the husband of Vāsavadattā's aunt is in the prison of the king of Kaliṅga. Udayana informs that he has already sent his General Vijayasena to fight against Kaliṅga. Soon Vijayasena enters along with Dṛḍhavarman's Kañcukin. The Kañcukin brings a message of gratitude from Dṛḍhavarman and informs that princess Priyadarśikā has been lost since Vindhyaketu's defeat. At this moment Manoramā hurriedly enters saying that Āraṇyikā in disappointment has drunk poison. Vāsavadattā repents for her cruelty and orders that she be brought there immediately, so that Udayana could cure her by his magic spells. Āraṇyikā, who is on the verge of death is brought. The chamberlain recognises her as Priyadarśikā. She is cured by Udayana and then the marriage follows.

29. The KSS—(towards the end of Kathāmukhalambaka) The princess Bandhumatī is presented by Gopālaka to Vāsavadattā. Vāsavadattā keeps her in the harem and she is known as Mañjulikā. Udayana marries her with the Gāndharva form of marriage. Vasantaka is mainly responsible for this. When Vāsavadattā knows the love-affair she puts Vasantaka and Māñjulikā in prison. The Parivrājikā Sāṁkṛtyāyanī intervenes and then Vāsavadattā offers her to Udayana.

Udayana had another love affair with Viracitā, a maid-servant of the harem.

In Madanamañcukālambaka we get the following story : King Kaliṅgadatta of Takṣaśilā gets a daughter, who happens to be an Apsaras Tārādattā born on the earth due to a curse. She is named Kaliṅgasenā. Her friend Somaprabhā, when she comes to know that Kaliṅgasenā has been betrothed to Prasenajit of Śrāvastī, informs her that the only suitable match for her was Udayana, the king of Vatsa. By this time Vāsavadattā has given birth to Naravāhanadatta. She informs how that king is 'rūpalubdha ' and desires for her but cannot say so openly for fear of Vāsavadattā. Now Kaliṅgasenā is anxious to be united with Udayana. Somaprabhā takes her to Udayana through air. Udayana informs Yaugandharāyaṇa how she has approached him for Svayaṁvara. Yaugandharāyaṇa knows that if he marries that extraordinarily charming girl he will forget everything else and hence he delays the marriage with the help of astrologers. In the meanwhile a Vidyādhara named Madanavega enters her apartment every night in the disguise of Udayana and when Kaliṅgasenā is pregnant he leaves her. Udayana allows her to stay in Kauśāmbī. She gives birth to a son, who is taken away by Prajāpati, and replaced by a daughter, whose form Rati has taken. She is named Madanamañcukā and later married to Naravāhanadatta.

The same story occurs in the Madanamañcukā guccha of the BKM. Moreover, after the marriage of Udayana-Vāsavadattā Udayana is referred to as 'gūḍhaṁ rajanikākāmī.'

In the available parts of the BKŚS this episode is absent though Naravāhanadatta-Madanamañcukā episode has been described in greater details. At the Yauvarājyābhiṣeka of Naravāhanadatta a courtezan named Kaliṅgasenā is present with a young girl. Udayana takes her in his lap and the brahmin Ādityaśarman utters some indistinct words. Udayana then sends back the mother and the child with presents.

30. All these stories point out that Udayana had amours with other ladies also even after his marriage with Vāsavadattā and with Padmāvatī. In the Buddhist versions also this trait in the character of Udayana is present. He was married to Sāmavatī and Māgandiyā (Anupamā) as has been already referred to in section 24. According to the Chinese MSVV he is so licentious that as soon as he knows that Pradyota has given permission to the ladies in his harem to move out at night he goes to Ujjayinī, in spite Yaugandhara's warning.

The heroines of Śrīharṣa *viz.* Ratnāvalī and Priyadarśikā are not present in any of the available versions of the BK; but these seem to have been suggested from the BK. Bandhumatī, presented by Gopālaka to Vāsavadattā in the KSS agrees very well with Ratnāvalī presented by Yaugandharāyaṇa to Vāsavadattā and Priyadarśikā by Rumaṇvān. This also corresponds to Mālavikā presented to queen Dhāriṇī by her brother Vīrasena in the MA of Kālidāsa.

31. Many of the motifs used by Śrīharṣa can be traced to different versions of the BK.

Similar to the story of the shipwreck in Ratnāvalī we find the story of Sāgaradiṇṇā in the 5th Lambaka viz Gandharvadattā--lābha in the BKŚS. Naravāhanadatta wins in the musical competition instituted by Gandharvadattā, daughter of the merchant Sānudāsa. When Naravāhanadatta hesitates to marry her, Sānudāsa says, "she belongs to the same caste as you are or even to a higher one." After the marriage he narrates her story. When Sānudāsa was working as a diamond-expert and was on voyage he meets with a shipwreck. He swims and reaches a desert-coast. There he finds a woman, naked and famished, who too was shipwrecked. She relates her own story. She is Samudradiṇṇā, daughter of a merchant, Sāgara from Rājagṛha. Sāgara had commercial dealings with a merchant, named Mitravarman of Campā. He has asked Samudradiṇṇā for his son. Meanwhile Mitravarman was dead and his son Sānudāsa, had been assassinated by highway men while he was travelling along with a caravan. In despair Sāgara was proceeding to the country of Yavanas to see his father-in-law. They met with a shipwreck and Samudradiṇṇā alone has been carried to the coast by a current.

Sānudāsa now reveals his identity. Samudradiṇṇā finds a large quantity of pearls in the oysters and then the marriage is celebrated there only. A second time Samudradiṇṇā was drawn by the current in storm. Later on during his series of adventures Sānudāsa happens to come to the hermitage of Bhāradvāja. One day a party of young maids comes down in an arial chariot. Bhāradvāja takes one of them in his lap and says, " my daughter Gandharvadattā! henceforward Sānudāsa shall be thy father." Gandharvadattā is thus his adopted daughter, her real parents are Bhāradvāja and Suprabhā, a Gandharvakanyā.

The motif of ship-wreck can be easily traced to this story (Āraṇyikā who was lost during the expedition against Vindyaketu is a modification of the same). The name Samudaradiṇṇā agrees very well with Sāgarikā. It is a Prakrit form of the name Samudradattā.

Sānudāsa is working as a diamond-expert. Moreover Samudradiṇṇā finds pearls in oysters. This might have suggested the jewelled necklace of Sāgarikā.

Disguise stories are very common in literature. There may be some such story in the BK available to Śrīharṣa which would explain Sāgarikā dressed as Vāsavadattā and Āraṇyikā as Vāsavadattā in the mimic play or it may be an innovation introduced by Śrīharṣa.

Lāvāṇaka fire in the Kaśmīrī BK explains the magic fire in Ratnāvalī.

Heroines committing suicide is also a popular feature in Indian tales. In the BKŚS Madanamañcukā is hanging herself due to pangs of separation from Naravāhanadatta. Śrīharṣa has used this motif in all the three plays. Sāgarikā and Malayavatī attempt to hang themseves ; while Āraṇyikā is drinking poison.

The prophesy about Ratnāvalī is exactly like that about Padmāvatī in the BKM.

The imprisonment of Sāgarikā and Vasantaka in the Ratnāvalī, and that of Āraṇyikā and Vasantaka in the PD agrees exactly with that of Mañjulikā and Vasantaka in the KSS. It reminds us of the imprisonment of Mālavikā also. As in the story of KSS in the PD also Parivrājikā Sāṁkṛtyāyanī is intervening. (In the MA the Parivrājikā is named Kauśikī). In the Ratnāvalī that part is played by the magician Śrīkhaṇḍadāsa.

(E) *The birth of Naravāhanadatta*

32. The KSS describes this in details in Naravāhanadatta-janmalambaka. Piṅgalikā with her two sons enters the palace. Now Vāsavadattā gets impatient to get a son. Nārada advises them to propitiate Śiva. They do accordingly. Vāsavadatā becomes pregnant. She sees in her dream herself seated in the sky and being waited upon by singing Vidyādharīs. Yaugandharāyaṇa then fulfils her

dohada by means of yantra, mantra, indrajāla etc. In dream Śiva assures her that he will protect her embryo. At an auspicious moment the child is born. A divine voice proclaims, " This is Naravāhanadatta, an incarnation of Kāmadeva. He will be a sovereign of Vidyādharas." It was followed by *Puṣpavṛṣṭi*.

The BKM gives a similar story, with minor deviations in the fourth guccha.

The BKŚS gives it in the second lambaka. Naravāhanadatta is giving an account of himself at the request of the sages. Udayana has two wives but no child. Udayana longs for a son. Piṅgalikā has two sons by Viṣṇu's grace. This induces Vāsavadattā and Udayana to implore gods. General penances in honour of Kuvera are ordered. Padmāvatī whose health is delicate is exempted. She is to consider Vāsavadattā's son as her own. Udayana and Vāsavadattā get an identical dream that God Kuvera presents them with a jewel in his garden. The jewel is suddenly transformed into a lion's cub that enters Vāsavadattā's womb. The brahmin Ādityaśarman interprets that Udayana's son will rule over the empire of Vidyādharas. Vāsavadattā gets a strange longing to travel in an aerial car. (See section 4). Yaugandharāyaṇa asks the artisans to prepare one ; but they refuse saying that the Greeks alone know that art. A brahmin does not believe in it. He says that they are intentionally keeping back the secret. And to prove his statement he tells the story of a carpenter named Viśvabhadra. Hence Yaugandharāyaṇa puts the artisans to torture. A stranger saves them by building the car.

(It is Bhadrāvatī herself. See section 15) Udayana gets in it with his wives and retinue, makes an aerial *pradakṣiṇā* round the earth, pays a visit to Ujjayinī and then returns to Kauśāmbī. Naravāhanadatta is born with 32 marks in due course. The four ministers also get sons.

32. In the Buddhist legend Naravāhanadatta has no place. But there are few references to Udayana's son. According to the Tibetan tradition, as given by Schiefner, Rāṣṭrapāla was Udayana's son and he joined religious state. According to Karmaśataka Śaraṇa was the son of Udayana Sauvīra. But according to Prof. Jacobi Udayana of Suvīra is different from Udayana of Kauśāmbī.

In Jain literature Naravāhanadatta's adventures form the central topic of Kathākośa ; but the hero is named Dīpaśikha, a Vidyādhara and not Naravāhanadatta. Naravāhanadatta is the real hero of the BK.

The interesting points in the narration of his birth are as follows :—

According to the Kaśmīrī version he was born by the grace of Śiva, according to the Nepālī by the favour of Kuvera. In Indian mythology Kuvera is not such an important god, though he is the Lord of wealth.

(2) Though in the KSS we learn that Yaugandharāyaṇa fulfilled Vāsavadattā's *dohada* with yantra, mantra and indrajāla, it is made more explicit in the Nepālī version. The Greeks are associated with that art. Why is this interesting reference missing in the Kaśmīrī version of the BK? Yavanas have been referred to in Sanskrit literature very often since ancient days.

(3) According to the Kaśmīrī version Mṛgāvatī and Sahasrānīka retired to the forest after installing Udayana on the throne. According to the BKŚS, Mṛgāvatī is still with them when Vāsavadattā feels the strange pregnancy-longing.

(F) *Udayana's End*

34. In the KSS (Mahābhiṣeka lambaka taraṅgas 110, 111) we learn that Udayana, Vāsavadattā and Padmāvatī attend the coronation of Naravāhanadatta as Vidyādharacakravartin on the mountain Ṛṣabha. After some days Naravāhanadatta learns through Prajñapti that Caṇḍamahāsena of Ujjayinī is dead. Gopālaka is living in Kauśāmbī and has passed over the kingdom to Pālaka. Udayana now thinks seriously of the instability of the worldly affairs. He goes to the mountain Kālañjara along with Vāsavadattā, Padmāvatī and his ministers. Udayana takes his Ghoṣavatī and throws himself down from a precipice. Others follow him. A vimāna comes and takes them all to heaven.

The BKM gives the same account in brief.

35. *Buddhist literature.* The Chinese MSVV—Udayana was a poor wretch. In his former birth, when he was a brahmin, he had let loose his dogs on a Pratyekabuddha collecting alms. Hence now he meets a miserable death. *Tibetan Kanjur*-Udayana fulfils the desire of taking revenge on Pradyota (See section 12). Pradyota is taken a prisoner and made to work as a weaver. Udayana intentionally presents him in that condition to Vāsavadattā. She decides to avenge this. She manages to set Pradyota free and pushes Udayana into a pit, where he is eaten by ferocious dogs. His ministers punish her by burning her alive.

But according to the Tibetan tradition Udayana was converted by the Buddha. According to one tradition in Tibet Udayana of Benares got a statue of the Buddha prepared with yellow sandal wood.

Hiuen Tsang records that an artist, who visited heaven in order to see the Buddha prepared a statue for Uadyana.

According to the canonical texts also Udayana is a pious king. Saṁyutta-Nikāya refers to Udayana being instructed by Bhāradvāja. When Piṇḍola Bhāradvāja does not salute Udayana he feels offended and leaves angrily. The sage curses him, as a result of which he loses his memory for six months and after

that when he regains his memory he has an ardent faith in the teachings of the Buddha, who then teaches law in Kauśāmbī.

According to Jātaka 375 (Fausböll) when Piṇḍola Bhāradvāja is in the Ghoṣitārāma Udayana goes there along with the ladies of his harem. Udayana goes to sleep due to drunkenness. When he gets up he finds the ladies surrounding the monk. Getting angry he attempts to throw red ants towards him. Bhāradvāja is uninjured. He rises and goes to the Buddha in Jeṭṭhavana to tell him of the incident.

According to the Chinese DP also Udayana is a pious king.

36. *Jain literature.* According to the Jain tradition Pradyota wanted to steal away Jina's statue from Udayana Sauvīra and hence a battle followed. But as Udayana Sauvīra is not the same as our Udayana the tradition is not important for us.

The story of Domuho rāyā given in Devendra's commentary on Uttarādhyayanasūtra IX has many points common with that of Udayana. That king finally becomes a Pratyekabuddha.

37. Thus Udayana has a happy end in the KSS and Pali canonical texts. In the Kanjur and Mūla-sarvāstitvavāda-vinaya, the narration is to the credit of Pradyota and as such is bound to be harmful to Udayana.

Finally as Prof. Lacote says, " Udayana's life is made up of gallant adventures and dramas of love. Buddhism has adopted the personage and given him an honourable place among the contemporaries of the Buddha. It was for Guṇāḍhya to make him the prototype of romance and comedy."

Nariman, Jackson and Ogden, the learned editors of Priyadarśikā, have said, " we can only conjecture what caused legend to gather, around the figure of Udayana, but even in the canonical Pali writings there are hints of amorous traits that would make him a suitable hero of romantic adventures."

All this bears sufficient testimony to Śrīharṣa's remark : Loke hāri ca Vatsarājacaritam.

ABBREVIATIONS

(1) BK—Bṛhatkathā
(2) BKM—Bṛhatkathāmañjarī
(3) BKŚS—Bṛhatkathāślokasaṃgraha
(4) DP—Dhammapada
(5) DPAK—Dhammapada—Aṭṭhakathā
(6) KPP—Kumārapālapratibodha
(7) KSS—Kathāsaritsāgara
(8) MA—Mālavikāgnimitra
(9) MM—Mālatimādhava
(10) MSVV—Mūlasarvāstitvavāda—vinaya
(11) PD—Priyadarśikā
(12) PY—Pratijñāyaugandharāyaṇa
(13) SV—Svapnavāsavadatta
(14) VV—Vīṇāvāsavadatta.

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TRANSCRIPTION AND TRANSLATION OF THE FIRST CHAPTER OF THE SECOND EPISTLE OF MANUŠČIHR GOŚNJAMAN A TEXT CRITICISM

By

M. F. Kanga

In this paper I have made an attempt to transcribe and translate the first chapter of the Second Epistle of Manuščihr Gōšnjamān. I have translated into English with notes and an introduction ' Sitikar Nāmaki Manuščihr. " and contributed to *Prof. Poure Davoud Memorial Volume* No. II pp. 189-204. I have followed the text edited by Ervad B. N. Dhabhar as well as the variants given in the footnotes. The text edited by Dhabhar lacks marks of punctuations which I have added in my Transcription. Ervad Dhabhar has edited the text of all the three Epistles and has translated into Gujarati the same with notes. Dr. West has also translated these Epistles of Manuščihr into English in the *Sacred Books of the East* Vol. XVIII. I have differed from these learned authorities and the points of difference have been shown by me in the footnotes to the text and the translation. I may add that the numbering of sections is kept the same as by Dhabhar for the sake of uniformity. The following remarks of Dr. West remain true up to now : " The writings of Manušcihr and his brother Zātsparam are undoubtedly the most difficult Pahlavi texts in existence, both to understand and to translate. " But it is a matter of great gratification that Prof. R. C. Zaehner has recently transcribed and translated chapters I and XXXIV with notes and comments in his monumental work " Zurvān , A Zoroastrian Dilemma. " Oxford 1955.

Epstle II

Chapter I.

Transcription :

(0) Paččēn i nāmak i Ēhrpat Manuščihr Góšnǰamān, kē-š ó ēhrpat brāt Zātsparam kart.

(1) < Pat > nām i yazdān, Kē ēhrpat χ^{v}atāδ apartōm pērōčgarīh i andar har dō aχ^{v}ān kāmak-hanǰām būržāvand dārānd ! yazdān[1]-kāmakīhā, hač frazandān hamist druvist tan < ut > róβāk-χ^{v}ēškārīh ut ō ēhrpat χ^{v}atāδ anōšēn vēnišn < ut > drūt-ākāsih < ut > purr-āržūk pathar dar andar yazdān spāsdār hōm.

1. All mss but W. BK rightly add yazdān.

(2) Nāmak yi-tān andar māh āpān hač[2] Nēvšāpuhr nipišt framūt mat; api-m hač kēšvar arž[3] druvistīh[4] drūtōmandīh i ēhrpat χ^{v}atāδ andar yazdān spāsdārīh aβzūtan bē apāyist hēy, ka-tān ākāsīh i χ^{v}ēš hast, < i > nipišt hēy; čē-tān nipišišn i nāmak nē ōγōn čeγōn dūrān, kē dōkānīk nipišēnd, bē cēγōn naz < d > īkān kē mēnēnd ku nōk nōk hamvār ākāsīh hampāδ.

(3) Ān-ič yi-tān nipišt < an > framūt pat nēšānak ōγōn nihūptak[5] yi-m vičīhišn[6] aβiš nē, čēγōn dōkān miyān nāmak paδtāk, ut hač nun frāč ākāsīh rōšn-tar framāyāt nipišt < an >; čē-m apardazišnīkīh i apar vas dar-īhā[7] rāδ bē ō nēšān šnāsīh dīl nē frahaχt.[8]

(4) Ēhrpat χ^{v}atāδ ākāsēnom[9] ku andar ēn tuhīk nipišt-ē bē ō man mat, yi-tān bē ō vēhān < i > Sīrkān bēš ut zarīk ut čašk ōγōn patmōčīhast yi-š āngōšītak i ka hufravart pētar < i > mān[10] hač astōmand a χ^{v}ān aδavaržīt;[11] (5) čē ētōn čēγōn a-kārīh i čašm hamāk zanišnīh[12] i < tan > hāvand, ētōn-ič gazišn[13] ut āhōkēnišn[14] i ō ōš ut χrat rasēt[15] hamāk zanišnīh i gyān[16] hāvand.[17]

(6) < ut > apar vīmand i apēčak āsna[18]χrat i a-rāstīh bavandak i mānsr patvēšak, kē-š ān i mahist ākāsīh i dēn-mazd-yastān apākēnīt ēstēt; andak-ič pas-χratīh ut pas-vēnišnīh[19] girān ōrangīhātar ut žēšt[20] ārangīhātar.

2. Text gives mnn-kē fw mn.-hač.
3. Mss. MR, MR$_1$, J. fill up the blank by the words kēšvar ar ž.
4. All mss except BK and W show druvistīh.
5. Text gives anptkn = ōptak; better MR, MR, J nihūptak.
6. Dr. West reads "vach dahishnó;" Dhabhar suggests reading Uzīhišnó" and derives it from av $\sqrt{i}$ + uz pref. to come out, to issue, and translates "exposition, explanation."
7. Dhabhar gives b ba īh = darīh; BK and MRI bba īhā = darīhā.
8. frahaxt cf. Horn. NPEty. 14-15 and Nyberg. Glossar 71. Dhabhar reads it pardāxt (*vide* Guj. translation p. 43 f. n. 21) from inf. pavdāxtan, to be engaged.
9. Dhabhar gives ākāsēnēm; better MR ākāsēnom.
10. Text gives pētarān; Mss. W, BK, pētar-mān; better pētar ī mān.
11. Text gives ain r st nn better MR, MR$_1$, J ain rzītn = aδavarzīt. Dhabhar reads āgavirzīt, deriving it from $\sqrt{raz}$ + vī pref, to abandon, to quit. See Bailey. *Zoo. Problems.* p. 116. f.n. 1.
12. Conected. Dhabhar gives Zīvišnīh.
13. Or dazišn. branding scorching, consuming from inf. dažītan.
14. Corrected; text gives aēnkēn išn.
15. Dhabhar begins para 6 from here, but the sentence is not complete.
16. Mss MR. MR, J. add ayā. Ir. gyān.
17. Para properly ends here.
18. Dhabhar gives a st arstn and reads āstārt as one word and refers to Epistle II ch. 8.1. and translates "Contaminated." The correct reading acc. to my view is āsna Xrat, innate wisdom. Dr. West reads ast ārtō, there is a contest.
19. Text gives n a a r, which West reads "vahār." Dhabhar suggests in the f. n a better reading ut pas
20. Text gives z št better z i št = zēšt as given by Ms. BK, J. It means "ugly, hideous, vicious, revolting. Av. Zaēšō. Barth *Air Wb.* 1651.

(7) Apim fratōm-ič andūh pat < ān >[21] ka-tān spurrīk hōrmat-īh apartōm rōšnīh < i > χ^{v}ēš bē vināsēt, api-tān ditīkarīh i man bē anāft, ut ān vičēr i ka-č rāst hēy, aδak-ič hač ān čēγōn dāt-ē i kēšvar ut dātistān-ē igēhān-maδāy hast, (8) ut ka-č pat šāturvān i maγūγān,[22] hanjaman i Pārs dar < ut > apārīk vas hamrassišnīh ōskārtan, ēvak hažār hū-dēn maγūγ patiš ham-sahišnīh ōbašt ēstēy, aδak-ič yut < hač > ōskārišnīh < ut > patīrak-handāžišnīh i apāk man ut apārīk sarān < i > maγūγān i dēn frārāstan ut vičēr patiš brēnēnītan ut dāt patiš nihātan ut framān apar dātan nē sačīt[23] hēy ; (9) api-tān ēn-ič andar apāyist mikīrīt hēy ku ka maγīhā[24] i tan pat vičēn[25] i 4 pāšōmān i Zamānak vīnārīhēt, aδak-ič ān i dēn dastōβar dātistān[26] i hač har dātistān mas ut aδvēn[27] ut dāt i kēšvar bē pat ōskār i ham pāšōmān ēnyā vičērēnītan[28] nē χ^{v}ap.

(10) Apitān ān hamārēnītan apāyist hēy i gōft ku : " ma ān varžēy, Zastōχšt ! Ka tō si aivāp čihār hambrāt andar vīs i stāyītār i hanjāmanīk ē gōβānd ētōn < ku ētōn ē > hast dūš-mēnišnīh ", (11) aδak tān ēn vāčak nē hamārēnīt, apitān saχtakīhā ut tēž nikērišnīhā[29] vičērēnīt, api-tān ō χ^{v}ēš bōžišnīk mēnīt ku : " m apar hanjaman i apar Sīrāz[30] ōskārt, vinās-ič andarγ nē paδtākēnīt, "

(12) ut ē framāyēt dānistan ku agar-tān pat hanjaman i Tuγzγuz[31] gōft-ē hēy, andarγ-gōftār kam-ič būt hēy.

(13) Sahom ku šmāk apar ēn hēr andar χ^{v}ēš ōγōn vēš hēδ čēγōn Zartōχšt i Ātarfranabaγ[32] ka-š nasākīhā[33] vīnārt ; hač-iš Ātarfranabaγ[33] χ^{v}at kasīhēt ;[34]

21. Dhabhar omits , Mss MR, MR_1, J. rightly add. zk. = ān.

22. Text gives mēnišn ; correct word should be maγūγān Dhabhar reads mēnišn, thought. Cf. the word in line 6 p. 56 of the text.

23. Text gives sacist which Dhabhar reads as sačist and translates "offensive." It is nothing but sačīt from inf. Sačītan impersonal verb , to be worthy ; to be fit ; to be proper.

24. Dhabhar reads " masāīh, comparing to Av. Masan and translates "greatness." Alternatively he suggests the reading masgīh-i tan pavan čīn and compares it with Pers. masīdan, to squeeze, to press.

25. Corrected by me. Text gives čīn nd

26. Dharhar gives dātistānīh following Mss W. BK. : I have followed the reading dātietān as given by the remaining Mss.

27. Text gives ēvēnak, aδvēnak : better aδvēn as per the variants shown in Mss MR, MR_1.

28. Text gives vičēr ēnēnītan , C ēn is repeated twice and is not required.

29. acc. to MSS. MR, MR_1. Text gives nikērišnīh. Here adverbial form is required.

30. following the variant shown in MS. BK. Text gives. iirāzn

31. Written in Avestan characters.

32. Corrected. Text gives ap prnbi, hprnbg which is read by Erved Dhabhar as "apa-frōbda" and translated "Club-footed" following Dr. West. But the correct reading of the word is ātas Franabaγ (i Farrox^{v}. zāt) who has been referred to here by Manuščihr. This Ātar Franabaγ 's none else but the son of Farrox^{v}-zāt, who had been the leader of the faithful after the death of his father and embraced the faith of Islam in the reign of Khalifa Mutawakkil.

33. Text gives n a š k īhā, the corrupted form of nasākīhā.

34. following the reading of MR. Text give. the reading vēšīhēt = is become more on the strength of the Mss W. BK.

api-š bē ō nipišt[35] Ku Mūsalmānān ka-šān āšnūt, aδak-šān nēvak passandīt, ut Rāzīkān passvχ^v nipišt ku : agar-tan anaγra

dūr-ič nihāt hēy, aδak-šān vēh-ič passandīt hēy.

(14) Ēn-ič i šmak hač ānioy kart vīsyār girāy-tar; passoχ^v i hač kōstān anāk-tar ut dū < š > srōβīh i andar martōmān užvāδišnīktar, ut bār i pat rōβān girān hūiānīhātar ut darišn patkārišn i ōhrmazd < ut > Zartōχšt škīft hamārīhātar bavēt.

(15) api-m ēn-ič apēr < girān > ka-tān χ^vēš dēn ākāsīh ut rōβān bōžākīh ōγōn zūr < ut > pat ān āngōšītak i ōy tanbažašk,[36] kē ka-šān dandān < i > dart žatan rāδ pūrsītan, aδak-š passoχ^v dahēt ku : 'bē kan'; apišān passoχ^vēnīt ku : ēmā bažīšk, ān hamē apāyēt ku dandān-ič i vīmār druvist kūnēt; aδak-š dandān kandan[37] hač ān i frēhīhātar ut vaskārtar.

(16) ut agar hu-dēnān-ič[38] i Ērānšahr fražānakīh ut dēn ākāsīh i ēhrpat χ^vatāδ pat ān i hamē apāyēt ku tāk pīχak-ič i[39] vīmār darmān vīrāδišn ārāδišn handāzēt; ēnēh pat pīχak bē aβgandan[40] vas niyāč-ē ō χrat dānākīh i Ēhrpat χ^vatā nēst; (17) čē, ōβāmīk hēnd i pātoχšā < δ >[41] kē pat vas gōnak hu-ērīh nāmgānīh ut nē passand hamē kūnēnd vas-īhā gōnak i gētāh-īhā χ^vārtar ut āsānīhātar i pat nipišt barēnd vēš čēš[42] i Ēhrpat hamē dahēnd ut aβdōm kas-ič nē hamē patγrēnīt[43] ān i dūš-dānāk, druvand.

35. DHABHAR gives pronoun n p š m n instead of verb nepišt as shown in the MSS BK, J, MR, MR₁.
36. Text b n č š k.
37. Text ap r n n m, ideogram for It. Kan-om. I exterpate, I extract out.
38. Corrected. Text gives hudēnān čand for hudēnān-či i.
39. Corrected Text gives pīxak ui čand for pīak-ič i.
40. Corrected. Text gives Em īt nn īt.
41. The word following pātoxšāδ seems to be the repition of and is not required in the context. This is also suggested by Dhabhar in his Guj. translation p. 48. fn. 85,
42. Corrected. Text gives hačēn for mndnm čēš.
43. better patγrēnīt for ptirēt inēt

Translation

(0) A copy of an Epistle of Ehrpat Manuščihr, son of Gōšnjam, which he wrote to Ehrpat's brother Zātsparam.

(1) (In) the name of God, who may preserve the supreme success and fulfilment of the highest wish of the Lord of the Ehrpats in both the lives! With the will of God I am thankful to God for healthy life and progress of the alloted-work of all the Children and for the divine[2] insight and news of welfare and fullness of aspirations in every respect of the Lord of the Ehrpats.

(2) The Epistle which you took the trouble to write from Nēv-šāhpur[3] in the month ĀBān has been received.[4] It would have been fit for me to increase gratitude to God worth-the-kingdom for the soundness and welfare of the Lord of the Ehrpats, if you had written information which is your own, because your letter-writing (is) not such as (one written by) those-staying afar who write in details but like the one (written by) those living in the vicinity, who imagine that new and new current news would be available.

(3) Even what you were pleased to write was so ambiguous[5] that I had no discernment[6] of it, as details in an Epistle (would be) clear; and hereafter you will be pleased to write information very clearly, for owing to my pre-occupation on many matters my heart (or mind) is not trained[7] for understanding code-word (nēšān).

(4) I inform the Lord of the Ehrpats that during this interval, a letter has been received by me whereby pain, grief and affliction have been so enveloped by you unto the faithful of Sīrkān that it is similar to the time when our Saintly father

1. lit. made.

2. *anōsēn*, anōš, immortal + ēn adj. suff, meaning relating to immortality. divine. Ervad DHABHAR gives in a footnote the reading hū-nišēn and following Dr. WEST translates the word "by the well-abiding". He further compares it with Prs. nushīn, nishēh = pleasant, fortunate.

3. a name of a city in Khōrāsān.

4. lit. come.

5. *pat nēšānak nihuptak*, evasive in codes or signs, ambiguous. WEST reads "auptak" and translates "events, ocurrences." DHABHAR translates "secret." See ŠNŠ ed. by Tavadia p. 85 f.n. 4.

6. *vičīhišn*,: derived from inf. vičītan, to select, to prefer, to choose, Av. and skr. vi + $\sqrt{\text{cay}}$. Dr. West reads "vach dahishny." DHABHAR reads "uz-dahišn" and derives it from av. $\sqrt{\text{dā}}$ + uz and translates "Conclusion, summation" and refers to the word परीक्षा occuring in the ŠGV. Alternatively, he suggests the reading "Uzīhišn, deriving it from Av. $\sqrt{\text{i}}$ + Uz, to come out, to issue and translates "exposition, explanation." Vide DHABHAR Guj. translation p. 43 fn. 16.

7. I read *frahaxt*, *frahāxt* (praat) meaning "trained, accomplished, perfect, skilled, from inf. frahaxtan, to teach, to educate, to bring up, Av. fra + $\sqrt{\text{Θanj}}$. *Cf.* frahang. See HORN, *NPEty.* 14-15 and NYBERG, *Glossar* 71. DHABHAR reads paardāxt, deriving from inf. pardāxtan, to be engaged, to employ, Av tač + para (HBM. *Persische Studien* 39) and pairi + $\sqrt{\text{tač}}$ (NYBERG, *Golssar* 171 and HORN NPEby 66.)

passed away[8] from the material world; (5) because, just as the inefficiency of the eye is equal to destruction of the body, so also stinging and blemish which come up to the intellect and wisdom are identical with the entire destruction of life.

(6) And over the boundary of pure innate wisdom, untruthfulness is the Contamination of the perfect mānsr (Holy spell) with which the greatest knowledge of the Religion of Mazdā-Worship is associated, and even a little after-wisdom and after-thought (are) immensely deceitful and most viciously harmful.

(7) And my grief at the outset is even owing to this when you ruin your perfect respect and your own supreme light; you have lost[9] my support (ditīkarīh). Even when that decree would be just, even then it should be like a law of the realm and an ordinance of world-wide greatness (but it is not so).

(8) Even if it was deliberated upon in the assembly of the Magians in the public-meetihg of the Court of Pārs and many other gatherings, even if a 1000 faithful Magians had given their seal of approval thereon, then too without deliberation and debate with me and other heads of the Magians of the Religion it was not proper to prepare it and to fix a decision thereon and to lay down a law thereon and to give an enjoinment.

(9) And you ought to have observed this too that since the holes (for ablution of) the body are arranged by a selection of the four best men of the period, it is therefore not proper to decide otherwise the regulation of the Dastō βar of the Religion, which is greater than all the regulations and the usages and the laws of the realm, without the deliberation of these best men.

(10) And you ought to have taken into account that which is said: "Do not practise that, O Zartōχšt! when three or four Companions in the family of the worshippers who are the members of the assembly may speak this thus : 'it is thus a wicked thought." (11) But you did not take into account this saying ; and you decided strictly and with quick observation, and you thought of defending yourself: 'I consulted the Council in Sīrāz and it did not declare any wrong sin in it.'

(12) You will please understand that if you had pronounced this in the assembly of Taγazγuz,[10] there would have been very few denouncers by interruption.

8. *Aδavarzīt*, See Bailey, *Zor Problems* p. 116 f.n. 1. Dhabhar reads aēvarzītan, or agavarzītan, to abandon, to quit, deriving from $\sqrt{\text{raz}}$ + vī. *Cf.* Epistle II. Ch. 8 para 4. (NM. p. 85).

9. ānāft. lit. vanquished, subjugated, destroyed, from inf. ānāftan.

10. "The word is written in Av. characters. Masandi states (A.D. 943) that the Tughuzghuz were a powerful Turkish tribe who dwelt between Xūrāsān and China, in and around the town of Kūšān, and not very far from the supposed sources of the Ganges. They had become Manicheans, having been converted from idolatry to the heretical form of Mazdā-Worship taught by Mazdak. It would seem from the allusion in the text that Zātsparam had recently been among

(13) I feel that you are as much (enthusiastic) over this substance within yourself as Zartōχšt, Son of Ātar Franabaγ[11] when he re-organised (the laws regarding) the dead matter.[12] Thereby Ātar Fanabaγ himself is belittled and he wrote that when the Musalmāns heard this, they approved it well and the people of Raē wrote a reply : 'if you had instituted (the decree) very far off, they too would have approved it well.'

(14) And this(decree) of yours is more heinous than that act of his (Zartōχšt's). The reply from the frontiers is very harmful and ignominy amongst men is most prevalent and the burden on the soul is most heavily thrust upon, and the torment and strife with Ohrmazd and Zartōχšt shall be of a very severe judgment.

(15) This too is very heavy upon me that your knowledge of the Scriptures and the salvation of the soul (are) so false and analogous to that physician of whom when they inquired as regards stopping[13] the aching of teeth, he replied : 'extract them.' They responded 'We always require such a physician who would heal the diseased teeth.' Hence his extraction of teeth is greater and more useful than their (cure).

(16) And if the faithful of the Country of Ērān do require sagacity and the knowledge of the Scriptures of the Lord of the Ēhrpats in order that you find out remedy for healing and soothing the diseased limb (i.e. the Barašnum Ceremonial), then there is not much necessity for the wisdom and knowledge of the Lord of the Ēhrpats for casting off the limb ; (17) for at present there are authoritative persons who (possess) fame[14] for many kinds of good qualities and do not always approve many sorts of worldly things which are very inferior and easier which they bring in the writings, which the Ēhrpats enjoin and eventually no one would ever accept him who is foolish and wicked.

those Tuγuγuz and might have imbibed some of the heretical opinions, so as to lead to this controversy with his brother and orthodox people of Sīrkān. That he had been in the extreme north-east of Xōrāsān is further shown by the allusion to Saraxs in Ch. V 3." (WEST SBE Vol. XVIII, p. 329.)

11. I read *ātar-Franabaγ* Text gives hprnbi See f.n. 32 of the transcription.

12. Text gives naškihā, which I read nasākīhā, dead matter Cf. Epistle III., Para 1 where the text gives prašh. Ervad DHABHAR connects the word with the following word hān and reads vaxšišn, "increase" Alternatively, he suggests that better reading should be "Khayā va ahu" See NM. p. 91, f.n. 10. The word written in Pahl. like vaxš is nothing but the corrupted form of nasāk + īhā pl. term. The second word should be read hān, av. anya-, OP. aniyā. meaning "other." Hence the correct phrase would be "nasāk ut han rīmanīh / contamination and other pollution. My reading thus confirmed by the reference of Epistle III. quoted above. See my paper in *Prof. Povu Davoud Memorial Volume* p. 199 f.n. 1.

13. lit. to smite, to kill.

14. Nāmgānīh. DHABHAR translates it by "name by name," specially. West reads vāmišnīh and translates "advance."

The Avesta Words denoting the *Day* and *Night* as undermentioned and their significance and the Gāhs of the Ancient Persians :—
Ayara ([Avestan script]), *Azan* ([Avestan script]), *Asna* ([Avestan script]), *Asnya* ([Avestan script]), *Khshapa* ([Avestan script]), *Khshapan* ([Avestan script]), *Khshapara* ([Avestan script]) *and the five Gāhs–Hāvana* ([Avestan script]), *Rapîthwin* ([Avestan script]), *Uzirin* ([Avestan script]), *Aiwisrûthrem* ([Avestan script]) *and Ushahin* ([Avestan script]).

By

D. D. KAPADIA

At the all India Oriental Conference held at Nagpore in 1946, a Bengali gentleman during a casual talk expressed his wish to know the exact ideas involved in the above-mentioned Avesta terms and hence here an attempt is made to elucidate the meanings of these words in Avesta pertaining to the Day and Night.

Looking to the extant Avesta Texts the word

ASNYA ([Avestan script]), Pah. Asnya ([Pahlavi script]) occurs in Vend. VII 5 as–*asnyêhê* (6/1),

as *asnya* ([Avestan script]) (2/3) in Yas. II 3,

as *asnyaêibyô* ([Avestan script]) (4/3) in Yas. I 3, and III 5;

as *asnyanâmcha* ([Avestan script]) (6/3) in Yas. I 17, VIII 19, and Afringan-i Gahambar 1, – and at all these places it has been used in the same sense viz. "things pertaining to a Day" i.e. parts of a Day or the Gâhs (i.e. the five parts into which a Day is divided for Zoroastrian ceremonials–viz. Hâvan, Rapîthwin, Uzirin, Aiwisrûthrem and Ushahin Gâhs. Accordingly the word *asnya* ([Avestan script]) has the unique meaning, a Gâh.

ASNA ([Avestan script]) and Azan ([Avestan script]) are terms which when accompanied with the word *KHSHAPA* ([Avestan script]) represents generally the *brighter* part of the whole day of 24 hours, as can be seen from the following quotations—

(a) *paiti asni paiti khshaphnê*—Yt. I 9, Gâh III 7, Vend. IV 45;

(b) *pourumcha naêmê asni pourumcha naêmê khshaphnê*—Vend. IV 45;

(c) *ithra vâ asni ithra vâ khshaphnê*—Vend. IV 1;
(d) *thrišum asnâmcha khshaphnâmcha*—Yas. LXII 5;
(e) *qsnâ-atcha khshaphnâ-atcha*—Yt. V 15.

However in Yas. XLVI 3 and L 10, the word asnâm ([Avestan]) occurs by itself with the meaning of Day-Time. In another place do we find the word asna ([Avestan]) by itself.

AYARA ([Avestan]) and AYARE ([Avestan]). These words are generally used to represent the brighter part of the Day of 24 hours, or in other words, the part of the day from sun-rise to sun-set. This word occurs jointly with Khshapa ([Avestan]) as under-as ayan (6/1).

(a) anghê ayān, anghâo khshapô—Yt. I 18, Yt. XI 5;
(b) hamahê ayân, hamayâo khshapô—Yas. LVII 31, Yt. VIII 54.

This word by itself in Yt. X 117 and Vistasp Yt. 41 in the sense of Day-Time. Again ayân ([Avestan]) (2/3) as vîspâish ayāncha khshaphnascha in Yt. I 11, Yas. LVII 17, in the sense of *every day*; and Ayân by itself in Vend. VIII 4 in the sense of Day-Time.

AYARE ([Avestan]) occurs in (Yasna) XLIII 1 and 7 in the sense of Day-Time. Zend Pahlavi Glossary defines Ayara ([Avestan]) as the brighter part of the whole day of 24 hours as explained hereunder. Ayara ([Avestan]) when compounded with any prefix or word has the sense of "the whole day of 24 hours", e.g. vîspô-ayara ([Avestan]) every day, bi-ayara ([Avestan]) two days.

In Yas. LXV 4; Yt. V 4, 101; and Yt. XIII 7,—the word ayara-bara ([Avestan]) occurs meaning (horse)-ride of the (whole) day.

KHSHAPA, KHSHAPAN, KHSHAPAR ([Avestan], [Avestan], [Avestan]) are meant to represent the darker part of the Day, from sun set to sun-rise. When combined with Ayara ([Avestan]) as seen from examples quoted above, the meaning is *night* or *darkness* only. These words occur in Avesta as under—

khshapa	(1/1)-Yt. I 11,50; Yt. XII 23;
khshaphnê	(4/1)-Vend. IV 1,45; XVIII 18,20,22; Yt. I 9;

khshapanem	(2/1)-Vend. XVIII 5; Yt. VIII 11; (in the sense of the whole night)
khshaphnîm	(2/1)-Yt. XIV 20;
khshaphnô	(6/1)-Yt. V 62; Yt. XIV 31;
khshaphna	(1/3)-Vend. IX 33,34; XVI 8-11; XIX 23;
khshapanô	(2/3)-Vend. XVIII 27; Yas. LXII 10; Yt. VIII 13,16;
khshaphnascha	(2/3)-Yas. LVII 17;
khshaphnô	(2/3)-Yt. XIII 17;
khshaphnãmcha	(6/3)-Vend. IV 45; Yas. LXII 5;
khshaphnâm	(6/3)-Vend. VII 54 (In Pah. commentory)
khshapôhva	(7/3)-Vend. XXI 3.

KHSHAPARA (𐬑𐬱𐬀𐬞𐬀𐬭𐬀) when compounded with a prefix or a word, is meant to represent the *whole day* but the day commencing with night as amongst Mahomadans, and not the day commencing with day-light as in ayara (𐬀𐬌𐬌𐬀𐬭𐬀).

Khshaphnya (𐬑𐬱𐬀𐬞𐬥𐬌𐬌𐬀) which obviously means "pertaining to night", is used in its modified form *khshaphnya* is employed in the sense of "evening meal" in Yas. LXII 7, exactly in the same manner as we have in the Modern Persian idiom "Shâm be kash" meaning "call for the dinner", where the word "shâm" (evening) is employed in the sense of "evening meal". Vend. V 12, 54, 55; IX 33; VIII 9 give *thri-khshapara*; Vend. V 42,43,54; IX 34,35 give *khshvash-khshapara* and *nava-khshapara* for six whole days and nine whole days respectively.

This in brief can be taken as a cursory analysis of what is available in the extant Avesta as regards these words for Day and Night. But the Zend-Pahlavi Glossary gives some additional new information as regards these words for the Day and the Night. The extract from the Glossary (Hoshangji and Haug's Edition, p. 42) is as follows:—

(Av.) *Ayare* =(Pah) *yôm,* ke vaš nima-i

(Av.) *frayar* û nima-i (Av) *Uzayar* nâm,

ez uzayar nima-i *Rapitpin*, u nima-i
Uzayarin; u pa zamestân bahâr-i
Rapitpin awâz o Hâvan gômîkhtêt.
(Av.) *Khshapa* = (Pah) *lelyâ*.—Ez lelyâ
chehâr bahâr; bahâr-i fratom (Av.)
hû-frâshmô-daitim (Pah. hûfrâshmôdât)
khᵛânênd; bahâr-i datîgar *erezaurvaêsât*.
(awîzagān-vartishnîh) khᵛânênd; in dô bahâr
Aiwisrûthrem; bahâr-i satîgar
Ushām sûrām (Pah. Hôš-i afzâr) khᵛânênd;
ke hôshain patash andar yâyêt;
bahâr-i chahârôm Raochanghām Fragatôit
(Pah. rôsanîh frâz-rasishnîh) ke
hôsh-i bâm, vaš hâvan gâs-icha
khᵛânad.

Translation—Avesta Ayare=Pah. yom (day); that its one-half is *frayar*, and (its other) half has the name *auzayar*. From *auzayar*, the (first) half has the name *rapithwin*, and the (other) half is *auzirin*; and in Winter, the part assigned to *rapithwin* intermingles back to Havan. (Av.) *khshapa* = (Pah) *lelyâ* (night). Of *lelyâ* there are four divisions; the first division is called (Av.) *hû-frashmô-dâitim*, (Pah) *Hûfrâshmôdât*. The second division is called (Av.) *Erezaurvaesat*, (Pah) *awizakān vartishnîh* (hour of change of the purest souls): these two divisions constitute *Aiwisrûthrem* (Gâh). The third division is (Av.) ushâm sûrâm, Pah. *hôsh-i afzâr* so that through it Hoshahin gâh sets in. The fourth division is (Av.) *raochanghām fragatôit* (i.e. springing forth of light), so that it is named as *hosh-i-bâm*; it is also named as Hâvan Gâh.

The above explanation afforded by this note in the Glossary is highly informative and unique as it enables us to know how a day was divided and its component parts named in old days. An explanatory table is attached at the end of the paper to show at a glance these sub-divisions.

In Vend. XXI 3, there occurs a pertinent passage, where the

terms used could not be explained satisfactorily. But in the light of the explanation given by the Glossary as quoted above we can translate it better. The passage runs thus—

(Av.) Yêzî uzirôhva merenchaiti, arezahva baêshazayât;
yêzî arèzahva merenchaiti, khshapôhva baêshazayât;
yèzî khshapôhva merenchaiti, ushahva baêshazayât.

Translation—If (the Ashmog) ruins (the land) at (the time of) *uzira*, then (the Almighty) cleanses it up by (the time) of *areza*; if (he) ruins at (the time) of *areza*, then He cleanses by (the time of) *khshapa*; and if (he) ruins by (the time) of *khshapa*, then He cleanses it by (the time) of usha.

This passage clearly mentions the four parts of the day as recognized by old Persians,—viz. *uzir* (afternoon), *areza* (the first part of the night), *khshapa* (darkest part of the night), and *usha* (the dawn)-the four parts of the day in succession.

These four terms are translated by various authorities as under:—

uzira	*areza*	*khshapa*	*usha*	
eve,	day-time,	night,	dawn,	Darm. Vend. 1st Edit.
noon,	eve,	night,	dawn,	„ „ 2nd Edit.
day-time,	evening twilight,	night,	dawn,	K. E. Kanga
evening,	clear day,	night,	dawn,	Spiegel
noon,	sacred hour of change,	night,	dawn,	B T. Anklesaria.
aûzir	awechak vartishnih,	lelyâ,	hosh	Pahl. Translation.
aûzirin	evening twilight,	night,	dawn,	Dastur Jamaspji.

Nirangistan, an Avesta-Pahlavi book on Zoroastrian rituals, gives a very informative description of the Gahs and translation of those passages can be quoted as under- (the folios given are from the photo-zincographed Edition by Dastur Darab Sanjana, Bombay, 1894).

Ushahin Gâh- (folio 74B to 75A)—

From what (time) shall the (religiously) correct glorification of the Ushahin Gâh take place?

From the middle of the *night* to the approach of *Sun-rise*.

It shall be so in winter.

Whereas in Summer if one sings before Sun-rise- Gâthâ Ahûnavaiti, Yasna Haphtaughâiti and sections of the Ushtavaiti Gâthâ, then he is no more guilty if he recites the other remaining chapter upto the middle of "*frayara*" (forenoon).

(Note-this implies that if one is able to recite Yasna upto Gâthâ Ushtavaiti before Sun-rise, then there is nothing wrong if the remaining chapters are recited during the next Gâh).

Hâvana Gah—(folio 91B to 92A)—

From what (time) shall the (religiously) correct glorification of the Hâvan Gâh take place?

From Sun-rise to the middle of *frayara* (forenoon).

It shall be so in Summer.

Whereas in Winter, (the Gah) continues upto the middle of *uzayara* (afternoon), when it may be said to be either "afternoon" or "night fall". In Winter the time of mid-day Gâh (Rapîtwin) merges into "Hâvan" (morning) Gâh.

(Note—this implies that in Winter, the whole of the period from Sun-rise to mid-afternoon is Hâvan Gâh, and it is so upto the present day. There is no *Rapîtwin* in Winter but only the second Hâvan Gâh).

Rapîthwin Gâh—(folio 98B to 99A)—

From what (time) shall the (religiously) correct glorification of the Rapîthwin Gah take place?

From mid-day to the passage of the middle of *uzayara* (afternoon).

Rapithwin yazishn is to be gone through twice a year-once when it enters into it and the next when it goes out of it. If one performs the Yazishn of Rapithwin continuously from the time

it enters till the time when it goes out, it is not proper.* Yazishn (should be) on the Auhrmazd Day. If the ceremonial which is to be gone through on Auhrmazd Day, is performed on the Bahaman Day, then it is not so good as that performed on Asha-vahishta Day.

There is one who says that Shatrivar Day is also good.

(Note—The present practise of performing Rapithwin ceremonial on Asha-vahishta Day, which as a matter of fact ought to be on the Auhrmazd Day, has its sanction thus in the above para.)

Uzayarin Gâh—(folio 103B to 104A)—

From what (time) shall the correct glorification of the Uzayarin Gah take place?

From the middle of *uzayara* (afternoon) to the approach of Hû frâshmô-dâiti (Sun-set).

It shall be so in Summer.

Whereas in Winter, if before sun-set one recites the prayers of Ahuna-vairya, glorifies water and at the least recites from the Spenta-Mainyu Gatha six stanzas, then one is inculpable if the reciting of the other remaining chapters is completed by midnight.

Note—Here also it is implied that owing to very short period of Uzayarin in Winter, if one commences the Yazishn ceremony then he must come upto six stanzas of Gatha Spenta Mainyu before nightfall.)

Aiwisrûthrêm Gâh—(folio 106A to 106B)—

From what (time) shall the correct glorification of the Aiwisruthrem Gah take place?

From the commencement of Hû-frâshmô-dât (sun-set) to the elapsing of Mid-night.

It is so in Summer and it shall be so likewise in Winter.

From the passages of Nirangistân quoted above, it appears that the writer does not take into account the divisions of either the Day

or the night as done by the writer of Zend-Padlavi Glossary, but only gives description according to the present day practise, hence it is obvious that it must be of a later date. However from what has been briefly mentioned in this short essay, one can easily get an idea of the several terms used for the Day and Night and their subdivisions as recognized by ancient Iranians.

Table showing the divisions of the Day and Night as given by Zend-Pahlavi Glossary—

- Day of 24 hours
  - Ayare (yôm)
    - Frayara = Hâvan Gâh 1
    - Uzayara
      - Rapîthwin Gâh 2
      - Uzayarin Gâh 3
    - (Hâvan Gâh 1 and Rapîthwin Gâh 2) = Hâvan (in Winter)
  - Khshpa (lelyâ)
    - Hû-frâshmô-dât, Erezaurvaêsât = Aiwisruthrem Gâh 4
    - Ushâm Surâm, Raochanghâm fragatôiţ = Ushahin Gâh 5

CORRIGENDUM

Viśpalā : A possible case of Vedic Hyplology—by M. A. Mehendale.

Page 58 : The correct reading of Foot-note No. 4 is as follows :

" cf. WACKERNAGEL, *Alt. Gr.* I. p. 327, who notes that the other similar form *viśpati* (and viśpapatnī) is not found beyond the Brāhmaṇas. In the epics and classical works we have *viṭ-pati* instead. From the Sūtra period onwards all new compounds with *viś* as the first member assume the form *viṭ*. WACKERNAGEL, however, seems to regard *viśpati* and *viśpalā* as old compounds in which the change of *ś* to *ṭ* (*ḍ*) did not occur. In fact, according to him, this shows that the sandhi modification came about gradually."